BOSCH	INJ.	PUMP	TEST	<b>SPECIFICATIONS</b>
-------	------	------	------	-----------------------

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.02.96 Test oil : ISO 4113

Part no. : 0 460 426 249 Pump designation : VE6/12F125OR498-6

Customer—spec. information Customer : CUMMINS Motor : 6 BTAA 5.9B Power KW : 133.0

## TEST BENCH REQUIREMENTS

## Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,4
Tolerance mm : +-0,02

Outlet : D

### INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 850
Aneroid pressure
hPa : 1000

Setting mm : 1.5
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	85 <b>0</b>
hPa	:	1000
Setting hPa	:	5.8
Tolerance hPa Shutoff solenoid	:	0.3
Volt	:	12

#### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	850
Aneroid pressure hPa	:	1000
Del. quantity cm3/1000 strokes	:	86.5
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	5.0
Check tolerance cm3/1000s.	:	5.0
Shutoff solenoid Volt	:	12

#### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity	:	500
cm3/1000 strokes	:	60.0
cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	5.0
Shutoff solenoid Volt	:	12
Check tolerance cm3/1000s.	:	6.0

Check tolerance cm3/1000s.	: 5.0	+ Aneroid pressure + hPa : 1000
IDLE SETTING		SV travel mm : 0.7 Tolerance mm : 0.4
Rated speed rpm Del. quantity		+ Check + tolerance mm : 0.7
cm3/1000 strokes Tolerance	: 15.0	+ Shutoff solenoid + Volt : 12
cm3/1000 strokes Shutoff solenoid	: 2.0	+ Rated speed rpm : 450
Volt Spread	: 12	SV travel mm : 2.4
cm3/1000 strokes Check tolerance	: 5.5	Tolerance mm : 0.5 Check
cm3/1000s.	: 7.0	tolerance mm : 0.7 Shutoff solenoid
FULL-LOAD SPEED R	REGULATION	+ Volt : 12
		+ KSB/AFB Volt : 12
Rated speed rpm Pressure hPa	: 1380 : 1000	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Del. quantity cm3/1000 strokes Tolerance	: 68.5	+ Rated speed rpm : 1250 + Aneroid pressure
cm3/1000 strokes Shutoff solenoid	: 3.0	hPa : 1000 Supply pomp
Volt	: 12	pressure bar : 7.2
		Tolerance hPa : 0.3
STARTING FUEL DEL	LIVERY	+ Shutoff solenoid + Volt : 12
Rated speed rpm Del. quantity	: 100	+ Rated speed rpm : 750
cm3/1000 strokes Tolerance	: 95.0	+ Aneroid pressure + hPa : 1000
cm3/1000 strokes Shutoff solenoid	: 15.0	Supply pomp pressure bar : 5.4
Volt	: 12	+ Tolerance hPa : 0.3
		+ Shutoff solenoid
		+ Volt : 12
		+ Rated speed rpm : 500 + Aneroid pressure
INJECTION-PUMP TE	EST SPECIFICATIONS	hPa : 1000 + Supply pomp
TIMING DEVICE CHA	RACTERISTIC	+ pressure bar : 4.2
Detail speed spe	: 1250	Tolerance hPa : 0.3 Shutoff solenoid
Rated speed rpm Aneroid pressure	: 1250	+ Volt : 12
hPa	: 1000	OVERFLOW QUANTITY
SV travel mm	: 2.4	+
Tolerance mm	: 0.4	Rated speed rpm : 500
Check tolerance mm	: 0.7	+ Overflow quantity + ccm/10s : 63.8
Shutoff solenoid		† Tolerance
Volt	: 12	ccm/10s : 22.2
Rated speed rpm	: 750	Check tolerance ccm/10s : 22.2

Shutoff solenoid		+	Check tolerance		
Volt	: 12	†	cm3/1000s. Shutoff solenoid	:	4.0
Rated speed rpm Aneroid pressure	: 1250	1	Volt	:	12
hPa	: 1000	Ŧ	Rated speed rpm	:	1250
Overflow quantity ccm/10s	: 83.3	Ŧ	Aneroid pressure	:	1000
Tolerance ccm/10s	: 27.7	Ŧ	Del. quantity cm3/1000 strokes	:	85.5
Check tolerance		+	Tolerance cm3/1000 strokes	:	1.5
ccm/10s Shutoff solenoid	: 27.7	‡	Check tolerance cm3/1000S.	:	3.5
Volt	: 12	‡	Shutoff solenoid Volt	:	12
DELIVERY AND BREA	KAWAY CHARACTERISTIC	+	Detect accord was		4400
Rated speed rpm	: 1380	Ŧ	Rated speed rpm Aneroid pressure	:	1100
Aneroid pressure hPa	: 1000	‡	hPa Del. quantity	:	1000
Del. quantity cm3/1000 strokes	: 68.5	<b>†</b>	cm3/1000 strokes Tolerance		88.0
Tolerance cm3/1000 strokes	: 3.0	‡	cm3/1000 strokes Check tolerance	:	1.5
Check tolerance cm3/1000s.	: 6.0	‡	cm3/1000s. Shutoff solenoid	:	3.5
Shutoff solenoid Volt	: 12	+	Volt	:	12
VOCC	. 12	+	Rated speed rpm	:	850
Rated speed rpm Aneroid pressure	: 1465	‡	Aneroid pressure hPa	:	1000
hPa Del. quantity	: 1000	+	Del. quantity cm3/1000 strokes	•	86.5
cm3/1000 strokes Check tolerance	: 27.5	1	Tolerance cm3/1000 strokes		0.5
cm3/1000s.	: 10.0	Ŧ	Check tolerance	•	
Shutoff solenoid Volt	: 12	+	cm3/1000s. Shutoff solenoid	:	3.0
Rated speed rpm	: 1530	+	Volt	:	12
Aneroid pressure hPa	: 1000	‡	MECHANICAL SHUTOF	F	
	: 1.5	‡	Rated speed rpm	:	1250
Tolerance cm3/1000 strokes	: 1.5	+	Aneroid pressure hPa	:	1000
Check tolerance cm3/1000S.	: 1.5	‡	Del. quantity cm3/1000 strokes	:	1.5
Shutoff solenoid Volt	: 12	‡	Tolerance cm3/1000 strokes	:	1.5
Rated speed rpm	: 600	‡	Spread cm3/1000 strokes	:	5.0
Aneroid pressure hPa	: 500	‡	Check tolerance cm3/1000s.	:	1.5
Del. quantity cm3/1000 strokes	: 78.5	‡	Spread cm3/1000 strokes	:	5.0
Tolerance		+	Shutoff solenoid	•	12
cm3/1000 strokes	: 0.5	Ţ	Volt	·	12

Tolerance cm3/1000 strokes : 20.0 ELECTR. SHUTOFF Shutoff solenoid CONTROL LEVER, IDLE STOP Volt 12 350 Rated speed rpm ASSEMBLY AND ADJUSTMENT DIMENSIONS Del. quantity cm3/1000 strokes : 1.5 Tolerance Dimension K mm : 3,7 cm3/1000 strokes : 1.5 Tolerance mm : +-0.1Dimension KF mm Check tolerance : 6,4 : +0,2cm3/1000s.1.5 Tolerance mm Spread MS1 dimension mm : 1,3 cm3/1000 strokes : 5.0 : +0,15/-0,1 Tolerance mm FULL-LOAD STOP CONTROL LEVER 350 Rated speed rpm CONTROL LEVER POSITION Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Control lever Spread mm AY noitisog : 34,8..38,8 cm3/1000 strokes : 5.0 Control lever Check tolerance cm3/1000s. 1.5 : 41,7..48,3 position YB mm Spread cm3/1000 strokes : 5.0 IDLE DELIVERY End of test-specification sheet 410 Rated speed rpm Del. quantity 1.5 cm3/1000 strokes : Tolerance 1.5 cm3/1000 strokes : Check tolerance 1.5 cm3/1000s.Shutoff solenoid 12 Volt START TRANSITION 240 Rated speed rpm Del. quantity 70.0 cm3/1000 strokes : Tolerance cm3/1000 strokes 15.0 Shutoff solenoid 12 Volt Rated speed rpm 130 Del. quantity cm3/1000 strokes : 100.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.11.95 Edition Test oil : ISO 4113

: 0 460 494 390 Part no. Pump designation: VE4/9F2100R508-1

Customer-spec. information : FIAT-AUTO Customer : M710 HT19.D Motor Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C 1

Overflow

restriction mm 0.75

Inlet press. bar : 0.35Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 450 x length mm

**REMARKS** 

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

1000

Setting mm 2.8 Tolerance mm 0.1

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

1000 Rated speed rpm

Aneroid pressure

1000 hPa

Setting hPa 4.8 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500 Aneroid pressure

hPa 1000

Del. quantity cm3/1000 strokes : 52.0

Tolerance

cm3/1000 strokes :

Spread

2.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 2.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

0.5

Rated speed rpm 600

Del. quantity

cm3/1000 strokes : 40.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

Check tolerance

2.5 cm3/1000s.

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 4.5

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid Volt : 12	†
	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION	TIMING DEVICE CHARACTERISTIC
Rated speed rpm : 2400	Debad aread area 2100
Pressure hPa : 1000 Del. quantity	+ Rated speed rpm : 2100 + Aneroid pressure
cm3/1000 strokes : 26.0 Tolerance	hPa : 1000 Tolerance mm : 0.3
cm3/1000 strokes : 3.0	+ Check
Shutoff solenoid Volt : 12	tolerance mm : 0.7 Shutoff solenoid
	Volt : 12
STARTING FUEL DELIVERY	+ Rated speed rpm : 1500
Rated speed rpm : 100	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 65.0	hPa : 1000
Tolerance	SV travel mm : 5.4
cm3/1000 strokes : 15.0 Shutoff solenoid	† Tolerance mm : 0.3 + Check
Volt : 12	tolerance mm : 0.7
	+ Shutoff solenoid + Volt : 12
LOAD-DEPENDENT START OF DELIVERY	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
SETTING	+
DELIVERY DIFFERENCE	+ Rated speed rpm : 2100 + Aneroid pressure
	+ hPa : 1000
Rated speed rpm : 1500 Del. quantity	+ Supply pomp + pressure bar : 7.8
cm3/1000 strokes : -10.0	+ Tolerance hPa : 0.3
Tolerance cm3/1000 strokes : 1.0	+ Shutoff solenoid + Volt : 12
Shutoff solenoid	+
Volt : 12	Rated speed rpm : 1500 Aneroid pressure
PRESSURE DIFFERENCE	hPa : 1000
Rated speed rpm : 1500	+ Supply pomp + pressure bar : 6.2
Del. quantity cm3/1000 strokes : -0.2	+ Tolerance hPa : 0.3 + Shutoff solenoid
Tolerance	Volt : 12
cm3/1000 strokes : 0.1 Shutoff solenoid	+ OVERFLOW QUANTITY
Volt : 12	+
TIMING-DEVICE TRAVEL DIFFERENCE	+ Aneroid pressure
Rated speed rpm : 1500	+ hPa : 1000 + Overflow quantity
Del. quantity	+ ccm/10s : 152.7
cm3/1000 strokes : -0.8 Tolerance	+ Tolerance + ccm/10s : 41.6
cm3/1000 strokes : 0.1	+
Shutoff solenoid Volt : 12	+ Check tolerance + ccm/10s : 41.6
	+ Shutoff solenoid + Volt : 12
	1 1000

	750	+ Shutoff solenoid
Rated speed rpm	: 750	+ Volt : 12
Aneroid pressure	4000	+
hPa	: 1000	+ Rated speed rpm : 2100
Overflow quantity	111 1	+ Aneroid pressure
ccm/10s	: 111.1	+ hPa : 1000
Tolerance	. 22.2	+ Del. quantity
ccm/10s	: 22.2	cm3/1000 strokes : 51.5 Tolerance
Check tolerance		+ cm3/1000 strokes : 1.5
ccm/10s	: 22.2	Check tolerance
Shutoff solenoid		- check toterance : 2.5
Volt	: 12	Shutoff solenoid
VOCE	. 12	Volt : 12
DELIVERY AND RREAL	KAWAY CHARACTERISTIC	I , , , , , , , , , , , , , , , , , , ,
DECIVER! AND BREAK	NAMAT CHARACTERISTIC	Rated speed rpm : 750
Rated speed rpm	: 2400	+ Del. quantity
Aneroid pressure	. 2.00	+ cm3/1000 strokes : 41.0
hPa	: 1000	+ Tolerance
Del. quantity	, , , ,	- cm3/1000 strokes : 1.0
cm3/1000 strokes	: 26.0	+ Shutoff solenoid
Tolerance		+ Volt : 12
cm3/1000 strokes	: 3.0	1
Check tolerance		Rated speed rpm : 750
cm3/1000s.	: 5.0	+ Aneroid pressure
Shutoff solenoid		+ hPa : 1000
Volt	: 12	Del. quantity
		+ cm3/1000 strokes : 54.0
Rated speed rpm	: 2700	+ Tolerance
Aneroid pressure		+ cm3/1000 strokes : 1.5
hPa	: 1000	+ Check tolerance
Del. quantity		+ cm3/1000s. : 2.5
cm3/1000 strokes	: 3.5	+ Shutoff solenoid
Shutoff solenoid		+ Volt : 12
Volt	: 12	<del> </del>
		+ Rated speed rpm : 1500
Rated speed rpm	: 2500	+ Aneroid pressure
Aneroid pressure		+ hPa : 1000
hPa	: 1000	+ Del. quantity
Del. quantity		+ cm3/1000 strokes : 52.0
cm3/1000 strokes	: 15.0	+ Tolerance
Tolerance	/ 6	- cm3/1000 strokes : 0.5
cm3/1000 strokes	: 4.0	+ Check tolerance
Check tolerance		+ cm3/1000s. : 2.0
cm3/1000s.	: 5.0	+ Shutoff solenoid
Shutoff solenoid	: 12	† Volt : 12
Volt	: 12	Ť
Pated speed rpm	: 750	
Rated speed rpm Aneroid pressure	. 750	T ELECTR. SHUTOFF
hPa	: 450	CONTROL LEVER, IDLE STOP
IIra	. 450	I CONTINUE LEVERY, IDEE STOI
LDA/		Rated speed rpm : 450
HBA stroke mm	: 6.7	+ Del. quantity
Del. quantity		+ cm3/1000 strokes : 1.5
cm3/1000 strokes	: 47.5	Tolerance
Tolerance	, ., .	+ cm3/1000 strokes : 1.5
cm3/1000 strokes	: 0.5	- Check tolerance
Check tolerance	. • • •	+ cm3/1000s. : 1.5
cm3/1000s.	: 2.5	+
	<del>-</del> -	1

			1			
Spread cm3/1000 strokes		5.0	Dated speed non		1500	
CIIDA 1000 SCHOKES	•	ا.0	+ Rated speed rpm + Del. quantity	:	1300	
FULL-LOAD STOP CO	MITDA	LEVED	cm3/1000 strokes		-0.8	
FOLL LOAD STOP CO	NYIKU	L LEVER	Tolerance	•	0.0	
Rated speed rpm	:	450	+ cm3/1000 strokes		0.1	
Del. quantity	•	450	+ Check tolerance	•	0.1	
cm3/1000 strokes	:	1,5	+ cm3/1000s.	:	0.1	
Tolerance			+ Shutoff solenoid	•		
cm3/1000 strokes	:	1.5	→ Volt	:	12	
Spread			+			
cm3/1000 strokes	:	5.0	+ DELIVERY DIFFERE	NCE		
Check tolerance			+			
cm3/1000s.	:	1.5	+ Rated speed rpm	:	1500	
Spread	_	<b>.</b> 0	+ Del. quantity		<b>5</b> 0	
cm3/1000 strokes	:	5.0	+ cm3/1000 strokes	:	5.0	
			+ Tolerance + cm3/1000 strokes		1.0	
			Check tolerance		1.0	
			cm3/1000s.		1.0	
RESIDUAL QUANTITY	,		+ Shutoff solenoid	•	1.0	
			Volt	:	12	
Rated speed rpm	:	600	+	-	<del></del>	
Del. quantity			+ TIMING-DEVICE TR	AVEL	DIFFERENCE	
cm3/1000 strokes	:	5.5	+			
Tolerance			+ Rated speed rpm	:	1500	
cm3/1000 strokes	:	1.5	† Tolerance mm	:	0.3	
Shutoff solenoid		13	+ Check		0 (	
Volt	:	12	† tolerance mm + Shutoff solenoid	:	0.4	
			+ Volt		12	
IDLE DELIVERY			+	•	, _	
			<u> </u>			
Rated speed rpm	:	500	+ EXHAUST-GAS RECI	RCUL	ATION	
Del. quantity			+			
- 7/4000 - A - 1		7.0	+ Rated speed rpm	•	1000	
cm3/1000 strokes	:		→ Del. quantity	•		
Tolerance						
Tolerance cm3/1000 strokes		3.0	+ cm3/1000 strokes		19.5	
Tolerance cm3/1000 strokes Check tolerance		3.0	cm3/1000 strokes Tolerance	:		
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.			cm3/1000 strokes Tolerance cm3/1000 strokes	:		
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		3.0 4.5	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		3.0	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:		
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		3.0 4.5	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : ENDEN	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt CHECKING LOAD-DEP START OF DELIVERY	: : : ENDEN	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	1.0 2.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP	: : : ENDEN	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION Rated speed rpm	: : :	1.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN	: : ENDEN	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity	: : :	1.0 2.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm	: : ENDEN	3.0 4.5 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes	: : :	1.0 2.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity	: : : ENDEN CE :	3.0 4.5 12 NT	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes	: : : ENDEN CE :	3.0 4.5 12 NT	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : ENDEN CE :	3.0 4.5 12 NT 1500 -12.0	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : ENDEN CE :	3.0 4.5 12 NT	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : ENDEN CE :	3.0 4.5 12 NT 1500 -12.0	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : ENDEN CE :	3.0 4.5 12 NT 1500 -12.0 4.0	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : ENDEN CE :	3.0 4.5 12 NT 1500 -12.0 4.0	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : ENDEN CE : :	3.0 4.5 12 NT 1500 -12.0 4.0 4.0 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0 12	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid	: : : ENDEN CE : :	3.0 4.5 12 NT 1500 -12.0 4.0 4.0 12	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	1.0 2.0 12 400 38.0 10.0 12	

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

### ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.7 Dimension K mm : 3,3

Tolerance mm : +-0,1
Dimension KF mm : 5,5
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

# POTENTIOMETER

SET

1. measurement

voltage Volt : 5,0

1. measurement

voltage Volt : 1,85

MICROSWITCH

SET

: ARF 12,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.04.95 : ISO 4113 Test oil

: 0 460 494 408 Part no. Pump designation : VE4/9F2100R508-2

Customer-spec. information : FIAT-AUTO Customer : M710 HT19.D Motor Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

**REMARKS** 

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa 1000

Setting mm 2.8 Tolerance mm 0.1

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1000

Setting hPa 4.8 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500 Aneroid pressure

1000 Del. quantity cm3/1000 strokes : 52.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5 Check tolerance

cm3/1000s. 2.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 600

Del. quantity cm3/1000 strokes : 40.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 2.5

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 800

Del. quantity

cm3/1000 strokes : 4.5

Tolerance

cm3/1000 strokes : 1.0

Volt	: 12	
FULL-LOAD SPEED R		INJECTION-PUMP TEST SPECIFICATIONS
Rated speed rpm		TIMING DEVICE CHARACTERISTIC
Pressure hPa Del. quantity		Rated speed rpm : 2100 Aneroid pressure
cm3/1000 strokes Tolerance	: 26.0	+ hPa : 1000 + Tolerance mm : 0.3
cm3/1000 strokes Shutoff solenoid		Check tolerance mm : 0.7
Volt	: 12	Shutoff solenoid Volt : 12
STARTING FUEL DEL	IVERY	- Rated speed rpm : 1500
Rated speed rpm Del. quantity	: 100	Aneroid pressure hPa : 1000
cm3/1000 strokes Tolerance	: 65.0	SV travel mm : 5.2
cm3/1000 strokes Shutoff solenoid		Tolerance mm : 0.3
Volt	: 12	tolerance mm : 0.7 Shutoff solenoid
		Volt : 12
LOAD-DEPENDENT ST SETTING	ART OF DELIVERY	SUPPLY PUMP PRESSURE CHARACTERISTIC
DELIVERY DIFFEREN	CE	Rated speed rpm : 2100 Aneroid pressure
Rated speed rpm	: 1500	hPa : 1000 Supply pomp
Del. quantity		pressure bar : 7.8
cm3/1000 strokes Tolerance	: -10.0	Tolerance hPa : 0.3 Shutoff solenoid
cm3/1000 strckes Shutoff solenoid	: 1.0	Volt : 12
Vol†	: 12	Rated speed rpm : 1500 Aneroid pressure
PRESSURE DIFFEREN	CE .	hPa : 1000 Supply pomp
Rated speed rpm Del. quantity	: 1500	pressure bar : 6.2 Tolerance hPa : 0.3
cm3/1000 strokes Tolerance	: -0.2	Shutoff solenoid Volt : 12
cm3/1000 strokes Shutoff solenoid	: 0.1	OVERFLOW QUANTITY
Volt	: 12	- Rated speed rpm : 2100
TIMING-DEVICE TRA	VEL DIFFERENCE -	Aneroid pressure hPa: 1000
Rated speed rpm Del. quantity	: 1500	- Overflow quantity - ccm/10s : 138.8
cm3/1000 strokes Tolerance	-	Tolerance ccm/10s : 41.6
cm3/1000 strokes Shutoff solenoid	: 0.1	- Check tolerance
Volt	: 12	- ccm/10s : 41.6 - Shutoff solenoid
	-	- Volt : 12

Shutoff solenoid

Rated speed rpm	: 750	+ Shuto + Volt	off solenoid :	12
Aneroid pressure hPa	: 1000			2100
Overflow quantity ccm/10s	: 97.2	→ hPa	oid pressure	1000
Tolerance ccm/10s	: 22.2	+ cm3/	quantity 1000 strokes : rance	51.5
Check tolerance ccm/10s	: 22.2	+ cm3/1	rance 1000 strokes : k tolerance	1.5
Shutoff solenoid Volt	: 12	+ cm3/1	1000s. :	2.5
DELIVERY AND BREAK		+ Volt	:	12
		+ Rated	1 1	750
Rated speed rpm Aneroid pressure	: 2400 : 1000	+ cm3/1	quantity 1000 strokes :	41.0
hPa Del. quantity cm3/1000 strokes		+ cm3/1	rance 1000 strokes : off solenoid	1.0
Tolerance cm3/1000 strokes		+ Shutt	ir sotenoia :	12
Check tolerance cm3/1000s.	: 5.0		d speed rpm :	750
Shutoff solenoid		∔ hPa	oid pressure :	1000
Volt	: 12	+ cm3/1	quantity 1000 strokes :	55.0
Rated speed rpm Aneroid pressure	: 2700	+ cm3/1	rance 1000 strokes :	1.5
hPa Del. quantity	: 1000	+ cm3/1	tolerance	2.5
cm3/1000 strokes Shutoff solenoid		+ Shutc + Volt	off solenoid :	12
Volt	: 12			1500
Rated speed rpm Aneroid pressure	: 2500	+ hPa	oid pressure :	1000
hPa Del. quantity	: 1000	+ cm3/1	quantity 1000 strokes :	52.0
cm3/1000 strokes Tolerance			1000 strokes :	0.5
cm3/1000 strokes Check tolerance	: 4.0 : 5.0	+ cm3/1	tolerance 1000s. : off solenoid	2.0
cm3/1000s. Shutoff solenoid		+ Shute + Volt	ir socenora :	12
Volt	: 12	<del>†</del>		
Rated speed rpm Aneroid pressure	: 750		R. SHUTOFF	CTOD
hPa	: 450	+	ROL LEVER, IDLE	
LDA/ HBA stroke mm	: 6.7	+ Del.	d speed rpm : quantity	
	: 47.5	† Toler		
Tolerance cm3/1000 strokes	: 0.5	+ Check	000 strokes :	
Check tolerance cm3/1000s.	: 2.5	† cm3/1	000s. :	1.5

			•				
Spread		E 0	† n-+\		_	1500	
cm3/1000 strokes	•	3,0		peed rpm antity	•	1500	
FULL-LOAD STOP CO	ו ומדוער	E\/E0		O strokes		-0.8	
TOLE LOAD DIGITION	SWINGL LL	- A C ! /	+ Toleran		•	0.0	
Rated speed rpm	: 45	50		Ú strokes	:	0.1	
Del. quantity	, , ,			olerance	•		
cm3/1000 strokes	:	1.5	+ cm3/1000		:	0.1	
Tolerance			Shutoff	solenoid			
cm3/1000 strokes	:	1.5	+ Volt		:	12	
Spread			+				
cm3/1000 strokes	:	5.0	+ DELIVER	Y DIFFERENC	Ε		
Check tolerance			+				
cm3/1000s.	:	1.5		peed rpm	:	1500	
Spread		<b>-</b> -		antity		5.0	
cm3/1000 strokes	;	5.0		D strokes	:	5.0	
			† Toleran		_	1.0	
				D strokes	•	1.0	
		<del></del>	+ cm3/1000	olerance Is		1.0	
RESIDUAL QUANTITY	/			solenoid	•	1.0	
WEDIDONE ADMILLE	1		+ Volt	30 (0) 10 (0	:	12	
Rated speed rpm	: 60	00	1		•	, _	
Del. quantity	,		+ TIMING-	DEVICE TRAV	ΈL	DIFFERENCE	
cm3/1000 strokes	:	3.0	+				
Tolerance			+ Rated sp	peed rpm	:	1500	
cm3/1000 strokes	:	1.5	+ Tolerand	ce mm	:	0.3	
Shutoff solenoid			+ Check				
Volt	:	12	•	e mm	:	0.4	
			+ Shutoff	solenoid		4.0	
			1 4 1 5				
701 E DEL TUEDY			† Volt		:	12	
IDLE DELIVERY			+ Volt		:	12	
	. 50	00	ļ	-GAS RECIRC	: 		<del></del>
Rated speed rpm	: 50	00	ļ	-GAS RECIRC	: ULA		
Rated speed rpm Del. quantity			EXHAUST-			TION	**************************************
Rated speed rpm Del. quantity cm3/1000 strokes			EXHAUST-	peed rpm		TION	****
	:		EXHAUST- Rated sp		:	TION 1000	• · • • · · · · · · · · · · · · · · · ·
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	7.0 3.0	EXHAUST- Rated sp Del. que cm3/1000	peed rpm antity Distrokes Se	:	1000 19.5	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	7.0	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000	peed rpm antity ) strokes ce ) strokes	:	1000 19.5	***************************************
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	7.0 3.0 4.5	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to	peed rpm antity ) strokes ce ) strokes blerance	:	1000 1000 19.5 1.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	7.0 3.0	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 check to	peed rpm antity D strokes ce D strokes blerance US.	:	1000 19.5	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	7.0 3.0 4.5	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff	peed rpm antity ) strokes ce ) strokes blerance	:	1000 1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : :	7.0 3.0 4.5	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 check to	peed rpm antity D strokes ce D strokes blerance US.	:	1000 1000 19.5 1.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP	: : :	7.0 3.0 4.5	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt	peed rpm antity ) strokes ce ) strokes plerance )S. solenoid	:	1000 1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : :	7.0 3.0 4.5	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt	peed rpm antity D strokes ce D strokes blerance US.	:	1000 1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY	: : : : PENDENT	7.0 3.0 4.5	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF	peed rpm antity ) strokes ce ) strokes blerance )S. solenoid RANSITION	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY	: : : : PENDENT	7.0 3.0 4.5	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF	peed rpm antity ) strokes ce ) strokes blerance )S. solenoid RANSITION peed rpm	:	1000 1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN	: : : PENDENT	7.0 3.0 4.5 12	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua	peed rpm antity ) strokes ce ) strokes blerance )S. solenoid RANSITION peed rpm	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm	: : : PENDENT	7.0 3.0 4.5 12	EXHAUST-  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua	peed rpm antity D strokes ce D strokes blerance DS. solenoid RANSITION peed rpm antity D strokes	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity	: : : PENDENT CE : 150	7.0 3.0 4.5 12	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua cm3/1000 Tolerand cm3/1000	peed rpm antity ) strokes ce ) strokes plerance )S. solenoid  RANSITION peed rpm antity ) strokes ce ) strokes	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : PENDENT : 150 : -1	7.0 3.0 4.5 12	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Shutoff	peed rpm antity ) strokes ce ) strokes blerance )S. solenoid RANSITION peed rpm antity ) strokes	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12 400 35.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff soleroid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : PENDENT : 150 : -1	7.0 3.0 4.5 12	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua cm3/1000 Tolerand cm3/1000	peed rpm antity ) strokes ce ) strokes plerance )S. solenoid  RANSITION peed rpm antity ) strokes ce ) strokes	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12 400 35.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff soleroid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : PENDENT : : 150 : -1	7.0 3.0 4.5 12 0 2.0 4.0	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Volt  START TF  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Shutoff	peed rpm antity ) strokes ce ) strokes plerance )S. solenoid  RANSITION peed rpm antity ) strokes ce ) strokes	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12 400 35.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff soleroid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : PENDENT : : 150 : -1	7.0 3.0 4.5 12	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Volt  Shutoff Volt	peed rpm antity ) strokes ce ) strokes clerance )S. solenoid RANSITION peed rpm antity ) strokes ce ) strokes ce solenoid	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12 400 35.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : PENDENT : : 150 : -1	7.0 3.0 4.5 12 0 2.0 4.0	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Folerand cm3/1000 Shutoff Volt  Rated sp	peed rpm antity ) strokes ce ) strokes clerance )S. solenoid RANSITION peed rpm antity ) strokes ce ) strokes ce solenoid	: : : : : : : : : : : : : : : : : : : :	1000 19.5 1.0 2.0 12 400 35.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : PENDENT : : 150 : -1	7.0 3.0 4.5 12 0 2.0 4.0	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Shutoff Volt  Rated sp	peed rpm antity ) strokes ce ) strokes clerance )S. solenoid RANSITION peed rpm antity ) strokes ce ) strokes ce solenoid		1000 19.5 1.0 2.0 12 400 35.0 10.0 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  CHECKING LOAD-DEP START OF DELIVERY DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : :	7.0 3.0 4.5 12 0 2.0 4.0 4.0	EXHAUST- Rated sp Del. qua cm3/1000 Tolerand cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Shutoff Volt  Rated sp Del. qua cm3/1000 Shutoff Volt  Rated sp	peed rpm antity ) strokes ce ) strokes clerance )S. solenoid RANSITION peed rpm antity ) strokes ce ) strokes ce solenoid		1000 19.5 1.0 2.0 12 400 35.0 10.0	

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.7

Dimension K mm : 3,3 Tolerance mm : +0,1

Dimension KF mm : 5,5 Tolerance mm : +-0,2

Dimension MS mm : 1,2 Tolerance mm : +0,2

POTENTIOMETER

SET

1. measurement

voltage Volt : 5,0

1. measurement

voltage Volt : 1,85

MICROSWITCH

SET

: ARF 12,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.07.95 Edition : ISO 4113 Test oil

: 0 460 404 077 Part no. Pump designation: VE4/10F2100R518

Customer-spec. information

Customer : IVECO-SOFIM Motor : 8140.67.2200

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm : 0,02

Check

tolerance mm : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

5.0 Setting mm Tolerance mm 0.1

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Setting hPa 6.7 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500 Del. quantity

cm3/1000 strokes :

43.0 Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0 Shutoff solenoid

12 Volt

IDLE SETTING

Rated speed rpm 375

Del. quantity cm3/1000 strokes : 14.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm 2300

Del. quantity

29.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid Volt	:	12	+	Shutoff solenoid Volt	:	12
STARTING FUEL DEL	IVERY		+	Rated speed rpm	:	1150
Rated speed rpm	: 10	0	+	SV travel mm	:	2.7
Del. quantity cm3/1000 strokes Tolerance	: 8	5.0	Ŧ	Tolerance mm Check	•	0.3
cm3/1000 strokes Shutoff solenoid	: 2	0.0	Ŧ	tolerance mm Shutoff solenoid Volt	:	0.7 12
Volt	:	12	Ī	Rated speed rpm	•	
			I	SV travel mm		7.3
LOAD-DEPENDENT ST SETTING	ART OF DI	ELIVERY	Ŧ	Tolerance mm Check	:	0.4
DELIVERY DIFFEREN	CE		‡	tolerance mm Shutoff solenoid	:	0.7
Rated speed rpm	: 1500	ס	+	Volt	:	12
Del. quantity cm3/1000 strokes	: -22	2.0	‡	Rated speed rpm		
Tolerance cm3/1000 strokes	:	1.0	†	SUPPLY PUMP PRESS		
Shutoff solenoid Volt	:	12	†	Rated speed rpm Supply pomp	:	2100
PRESSURE DIFFEREN	CE		Ī	pressure bar Tolerance hPa Shutoff solenoid	:	8.8 0.3
Rated speed rpm Del. quantity	: 1500	)	Ī	Volt	:	12
cm3/1000 strokes Tolerance	: -(	0.2	Ī	Rated speed rpm Supply pomp	:	600
cm3/1000 strokes Shutoff solenoid	: (	0.1	+	pressure bar Tolerance hPa	:	3.5 0.3
Volt	:	12	+	Shutoff solenoid Volt	:	12
TIMING-DEVICE TRA			<del> </del> 	Rated speed rpm	:	400
Rated speed rpm Del. quantity			<del> </del> <del> </del>	OVERFLOW QUANTITY		
cm3/1000 strokes Tolerance		).5	†	Rated speed rpm	:	2100
cm3/1000 strokes Shutoff solenoid	: (		†	Overflow quantity ccm/10s	:	97.2
Volt	:	12	Ŧ	Toleranse ccm/10s	:	41.6
INJECTION-PUMP TE	ST SPECIF	FICATIONS	Ī	Check tolerance ccm/10s		41.6
TIMING DEVICE CHAP	RACTERIST	TIC	Ĭ	Shutoff solenoid Volt	•	12
Rated speed rpm	: 1800	)	$\overline{1}$	Rated speed rpm	:	600
SV travel mm		5.9 ).3	$ar{1}$	Overflow quantity ccm/10s		63.8
Tolerance mm Check tolerance mm		).7	Ŧ	Tolerance ccm/10s	:	22.2
LULUI GIILE (IKI)		·• I	1	COM7 103	•	<b>-4.6</b>

Charle halamana			+	Check tolerance		7.0	
Check tolerance ccm/10s		22.2	†	cm3/1000s. Shutoff solenoid	:	3.0	
Shutoff solenoid	•	44.4	I	Volt		12	
Volt	•	12	1	VO(1	•	12	
	•		1	Rated speed rpm	•	1500	
DELIVERY AND BREA	KAWAY C	CHARACTERISTIC	+	Del. quantity			
			+	cm3/1000 strokes	:	43.0	
Rated speed rpm	: 23	800	+	Tolerance		0.5	
Del. quantity cm3/1000 strokes	•	29.0	†	cm3/1000 strokes Check tolerance	:	0.5	
Tolerance	•	27.0	I	cm3/1000S.		2.0	
cm3/1000 strokes	:	2.0	1	Shutoff solenoid	•	2.0	
Check tolerance			+	Volt	:	12	
cm3/1000s.	:	6.0	+				
Shutoff solenoid			+				
Volt	:	12	+	EL FOTO: OUNTOEF			
Datad award www	: 24	00	†	ELECTR. SHUTOFF		TAD	
Rated speed rpm Del. quantity	: 24	100	I	CONTROL LEVER, ID	LE 3	108	
cm3/1000 strokes	:	7.0	1	Rated speed rpm	:	375	
Shutoff solenoid	-		+	Del. quantity	•		
Volt	:	12	+	cm3/1900 strokes	:	1.5	
			+	Tolerance			
Rated speed rpm	: 26	600	+	cm3/1000 strokes	:	1.5	
Del. quantity cm3/1000 strokes		1,5	†	Check tolerance cm3/1000s.		1.5	
Tolerance	•	1.5	I	CIII37 10005,	•	1.5	
cm3/1000 strokes	:	1.5	I	FULL-LOAD STOP CO	NTRO	I I EVER	
Check tolerance	•		1				
cm3/1000s.	:	1.5	÷	Rated speed rpm	:	375	
Shutoff solenoid			+	Del. quantity			
Volt	:	12	†	cm3/1000 strokes	:	1.5	
Rated speed rpm	: 21	00	I	Tolerance cm3/1000 strokes		1.5	
Del. quantity	• = 1	00	1	Check tolerance	•	1.5	
cm3/1000 strokes	:	44.0	4	cm3/1000S.	:	1.5	
Tolerance			į.				
cm3/1000 strokes	:	1.5	+	IDLE DELIVERY			
Check tolerance		2.5	†	Dottod operad new		465	
cm3/1000S. Shutoff solenoid	•	۵.۶	I	Rated speed rpm Del. quantity	:	403	
Volt	:	12	1	cm3/1000 strokes	:	1.5	
- = <b>*</b> *	-	· <del></del>	+	Tolerance	,		
Rated speed rpm	: 10	00	+	cm3/1000 strokes	:	1.5	
Del. quantity		/ <b>4</b> . <b>6</b>	+	Check tolerance			
cm3/1000 strokes	:	41.0	+	cm3/1000s.	:	1.5	
Tolerance cm3/1000 strokes		1.5	İ	Shutoff solenoid Volt	,	12	
Check tolerance	•	(•)	I	VOCC	•	16	
cm3/1000s.	:	2.5	1				
Shutoff solenoid			+				
Volt	:	12	+				
Dakad swand www		00	†	CUECKING LOAD DED		\IT	
Rated speed rpm Del. quantity	; 0	00	I	CHECKING LOAD-DEP START OF DELIVERY		AI	
cm3/1000 strokes	:	36.5	1	OTHER OF PETACH			
Tolerance			+	DELIVERY DIFFEREN	CE		
cm3/1000 strokes	:	2.0	+			4506	
			+	Rated speed rpm	:	1500	

Del. quantity cm3/1000 strokes	:	-23.0
Tolerance cm3/1000 strokes	:	3.0
Check tolerance		
cm3/1000S. Shutoff solenoid	:	4.0
Volt	•	12
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm Del. quantity	:	1500
cm3/1000 strokes Tolerance	:	-0.5
cm3/1000 strokes Check tolerance	:	0.1
cm3/1000s. Shutoff solenoid	•	0.1
Volt	:	12
DELIVERY DIFFEREN	CE	
Rated speed rpm Del. quantity	:	1500
cm3/1000 strokes	:	1.0
Tolerance cm3/1000 strokes	:	1.0
Check tolerance cm3/1000s.	:	1.0
Shutoff solenoid Volt		12
	:	
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm Tolerance mm	:	1500 0.4
Check tolerance mm	:	0.4
Shutoff solenoid Volt	:	12
START TRANSITION		
Rated speed rpm Del. quantity	:	500
cm3/1000 strokes	:	35.0
Tolerance cm3/1000 strokes	:	10.0
Shutoff solenoid Volt	:	12
Rated speed rpm Del. quantity	:	300
cm3/1000 strokes	:	70.0
Tolerance cm3/1000 strokes	:	15.0

Shutoff solenoid Volt	: 12	
ASSEMBLY AND ADJU	USTMENT DIMENSIONS	
Dimension K mm Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm KSB travel mm	: - : 5,8 : +-0,2 : 1,8 : +-0,1 : 11,5	
POTENTIOMETER SET		
<ol> <li>measurement voltage Volt</li> <li>measurement voltage Volt</li> </ol>	: 5,0 : 2,31	
CONTROL LEVER POS SET	TITION	
Control lever position YA mm	: 37,939,9	
Control lever position YB mm	: 41,847,0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.07.95 Test oil : ISO 4113

Part no. : 0 460 404 084 Pump designation : VE4/10F2100R518-1

Customer-spec. information

Customer : IVECO-SOFIM Motor : 8140.67.2200

TEST BENCH REQUIREMENTS

Calibrating—oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

**REMARKS** 

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0.2Tolerance mm : +-0.02

Check

tolerance mm : +-0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 5.0 Tolerance mm : 0.1

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa : 6.7 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

IDLE SETTING

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 14.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2300

Del. quantity

\_\_\_\_

cm3/1000 strokes :

29.0

Tolerance

cm3/1000 strokes : 2.0

A19

Shutoff solenoid Volt	:	12	<del>+</del>	Shutoff solenoid Volt	:	12
STARTING FUEL DEL	.IVERY		‡	Rated speed rpm	:	1150
Rated speed rpm Del. quantity		00	+	SV travel mm Tolerance mm	:	2.7 0.3
cm3/1000 strokes Tolerance		85.0	‡	Check tolerance mm	:	0.7
cm3/1000 strokes Shutoff solenoid	:	20.0	‡	Shutoff solenoid Volt	:	12
Volt	;	12	+	Rated speed rpm	:	2100
LOAD-DEPENDENT ST	ART OF	DELIVERY	<del> </del>	SV travel mm Tolerance mm Check	:	7.3 0.4
DELIVERY DIFFEREN	ICE		+	tolerance mm Shutoff solenoid	:	0.7
Rated speed rpm		500	1	Volt	:	12
Del. quantity cm3/1000 strokes		-22.0	<u>†</u>	Rated speed rpm	:	1500
Tolerance cm3/1000 strokes		1.0	1	SUPPLY PUMP PRESS	UKE	CHARACTERISTIC
Shutoff solenoid	•	12	Ŧ	Rated speed rpm	:	2100
PRESSURE DIFFEREN	CE	12	Ī	Supply pomp pressure bar Tolerance hPa	:	8.8 0.3
Rated speed rpm	: 15	:00	+	Shutoff solenoid Volt	:	12
Del. quantity cm3/1000 strokes		-0.2	+	Rated speed rpm	:	
Tolerance cm3/1000 strokes Shutoff solenoid		0.1	Ŧ	Supply pomp pressure bar Tolerance hPa	:	3.5 0.3
Volt	:	12	Ŧ	Shutoff solenoid	•	12
TIMING-DEVICE TRA	VEL DIF	FERENCE	Ŧ		•	
Rated speed rpm	: 15	00	‡	Rated speed rpm	:	400
Del. quantity cm3/1000 strokes	:	-0.5	‡	OVERFLOW QUANTITY		
Tolerance cm3/1000 strokes	:	0.1	‡	Rated speed rpm Overflow quantity		
Shutoff solenoid Volt	:	12	‡	ccm/10s Tolerance	:	97.2
			‡	ccm/10s	:	41.6
INJECTION-PUMP TE			+	Check tolerance ccm/10s	:	41.6
TIMING DEVICE CHA			‡	Shutoff solenoid Volt	:	12
Rated speed rpm			+	Rated speed rpm		600
SV travel mm Tolerance mm	: :	6.9 0.3	+	Overflow quantity ccm/10s	:	63.8
Check tolerance mm	:	0.7	†	Tolerance ccm/10s	:	22.2
			T			

		+ Check tolerance
Check tolerance ccm/10s	: 22.2	+ cm3/1000s. : 3.0 + Shutoff solenoid
Shutoff solenoid		+ Volt : 12
Volt	: 12	+ 1000
	· · · · · ·	+ Rated speed rpm : 1500
DELIVERY AND BREA	KAWAY CHARACTERISTIC	+ Del. quantity
		+ cm3/1000 strokes : 43.0
Rated speed rpm	: 2300	+ Tolerance
Del. quantity cm3/1000 strokes	: 29.0	+ cm3/1000 strokes : 0.5 + Check tolerance
Tolerance	. 29.0	- cm3/1000s. : 2.0
cm3/1000 strokes	: 2.0	+ Shutoff solenoid
Check tolerance		+ Volt : 12
cm3/1000s.	: 6.0	+
Shutoff solenoid	40	†
Volt	: 12	ELECTR. SHUTOFF
Rated speed rpm	: 2400	CONTROL LEVER, IDLE STOP
Del. quantity	. 2.05	TOTAL ZEVERY IDEE OF OF
cm3/1000 strokes	: 10.0	+ Rated speed rpm : 375
Shutoff solenoid		+ Del. quantity
Volt	: 12	- cm3/1000 strokes : 1.5
Rated speed rpm	. 2600	+ Tolerance + cm3/1000 strokes : 1.5
Del. quantity	. 2000	Check tolerance
cm3/1000 strokes	: 1.5	+ cm3/1000s. : 1.5
Tolerance		<del> </del>
cm3/1000 strokes	: 1.5	+ FULL-LOAD STOP CONTROL LEVER
Check tolerance	4.5	0.4 1 1 777
cm3/1000S. Shutoff solenoid	: 1.5	+ Rated speed rpm : 373 + Del. quantity
Volt	: 12	+ cm3/1000 strokes : 1.5
VOCC	• '-	+ Tolerance
Rated speed rpm	: 2100	+ cm3/1000 strokes . 1.5
Del. quantity		+ Check tolerance
cm3/1000 strokes	: 44.0	+ cm3/1000s. : 1.5
Tolerance cm3/1000 strokes	: 1.5	IDLE DELIVERY
Check tolerance		I TOLE DECIVERY
cm3/1000s.	: 2.5	Rated speed rpm : 465
Shutoff solenoid		+ Del. quantity
Volt	: 12	+ cm3/1000 strokes : 1.5
Data dana ada ann	: 1000	+ Tolerance + cm3/1000 strokes : 1.5
Rated speed rpm Del. quantity	: 1000	+ cm3/1000 strokes : 1.5 + Check tolerance
cm3/1000 strokes	: 41.0	+ cm3/1000s. : 1.5
Tolerance	. ,,,,,	Shutoff solenoid
cm3/1000 strokes	: 1.5	+ Volt : 12
Check tolerance		+
cm3/1000s.	: 2.5	†
Shutoff solenoid Volt	: 12	Ī
VOCE	. 14	
Rated speed rpm	: 600	+ CHECKING LOAD-DEPENDENT
Del. quantity		START OF DELIVERY
cm3/1000 strokes	: 36.5	+
Tolerance	. 20	† DELIVERY DIFFERENCE
cm3/1000 strokes	: 2.0	Rated speed rpm : 1500
		L varen sheen thin . 1700

Del. quantity sm3/1000 strokes	:	-23.0
Tolerance cm3/1000 strokes	:	3.0
Check tolerance cm3/1000s.	:	4.0
Shutoff solenoid Volt	:	12
TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm	:	1500
Del. quantity cm3/1000 strokes Tolerance	:	-0.5
cm3/1000 strokes	:	0.1
Check tolerance cm3/1000s.	:	0.1
Shutoff solenoid Volt	:	12
DELIVERY DIFFEREN	ICE	
Rated speed rpm	:	1500
Del. quantity cm3/1000 strokes	:	1.0
Tolerance cm3/1000 strokes	:	1.0
Check tolerance cm3/1000s.	:	1.0
Shutoff solenoid Volt	:	12
TIMING-DEVICE TRA	VFI	
Rated speed rpm Tolerance mm	:	1500 0.4
Check tolerance mm	:	0.4
Shutoff solenoid Volt	:	12
START TRANSITION		
Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	35.0
Tolerance cm3/1000 strokes	:	10.0
Shutoff solenoid Volt	:	12
Rated speed rpm Del. quantity	:	300
cm3/1000 strokes Tolerance	:	70.0
cm3/1000 strokes	:	15.0

Shutoff solenoid
Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : Dimension KF mm : 5,8
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2
KSB travel mm : 11,5

CONTROL LEVER POSITION
SET

Control lever
position YA mm : 37,9..39,9

Control lever
position YB mm : 41,8..47,0

	+
BOSCH INJ. PUMP TEST SPECIFICATIONS	Rated speed rpm : 1400
Note remarks	+ Aneroid pressure + hPa : 1200
Refer to Service Info for test and	Cotting on 1 7 2
adjustment instructions.	Setting mm : 3.2 Tolerance mm : 0.1
See microcard(s) W400/	Shutoff solenoid
occ miorocal acos whose it.	+ Volt : 12
Edition : 11.07.95	+
Test oil : ISO 4113	+ SUPPLY PUMP PRESSURE
Post 30	h Datad aread now 1/00
Part no. : 0 460 414 112 Pump designation : VE4/11F1900R521-1	+ Rated speed rpm : 1400 + Aneroid pressure
Pullip designation : VE471111900RJE111	hPa : 1200
	17200
Customer-spec. information	Setting hPa : 7.5 Tolerance hPa : 0.3
Customer : IVECO-SOFIM Motor : 8140.27.2560	
Motor : 8140.27.2560	+ Shutoff solenoid
	† Volt : 12
TEST BENCH REQUIREMENTS	FULL-LOAD DELIVERY WITH BOOST PRESSURE
Calibrating-oil	Rated speed rpm : 1000
return	Aneroid pressure
	hPa : 1200
temperature °C : 45 Tolerance °C : 1	+ Del. quantity
	+ cm3/1000 strokes : 47.0
Overflow	† Tolerance
restriction mm : 0.75	+ cm3/1000 strokes : 0.5
	+ Spread
7 1	+ cm3/1000 strokes : 4.0
Inlet press. bar : 0.35 Tolerance bar : 0.05	† Check tolerance
Tolerance par : 0.05	+ cm3/1000s. : 4.5 + Shutoff solenoid
	+ Volt : 12
Test nozzle holde	1
assembly : 1 688 901 027	FULL-LOAD DELIV. WITHOUT BOOST PRESSURE
•	<del>}</del>
Opening pressure	+ Rated speed rpm : 550
bar : 250	+ Del. quantity
Tolerance bar : 3	cm3/1000 strokes : 26.5
	+ Tolerarice + cm3/1000 strokes : 0.5
Test lines : 1 680 750 073	+ Shutoff solenoid
1630 Ciries . 1 000 170 015	Volt : 12
Outside diameter : 6.00	Check tolerance
	cm3/1000s. : 4.5
x inside diameter : 2.00	+
x length mm : 450	+ IDLE SETTING
	Poted aread may 200
DEMADES	Rated speed rpm : 300
REMARKS	+ Del. quantity + cm3/1000 strokes : 10.0
•	Tolerance
	- cm3/1000 strokes : 2.0
	+ Shutoff solenoid
INJECTION PUMP SETTING VALUES	+ Volt : 12
	+ Spread
TIMING DEVICE TRAVEL	← cm3/1000 strokes : 6.0

Check tolerance		+ Tolerance
cm3/1000s.	: 6.5	cm3/1000 strokes : 0.1 Shutoff solenoid
FULL-LOAD SPEED F	PECUL ATTOM	volt : 12
TOLL LOAD SPEED R	KEROLY I TOM	
Rated speed rpm	: 2100	INJECTION-PUMP TEST SPECIFICATIONS
Pressure hPa Del. quantity	: 1200	TIMING DEVICE CHARACTERISTIC
cm3/1000 strokes Tolerance	: 35.0	+ Rated speed rpm : 1750
cm3/1000 strokes Shutoff solenoid	: 2.0	Aneroid pressure
Volt	: 12	+
STARTING FUEL DEL	.IVERY	+ SV travel mm : 5.7 + Tolerance mm : 0.3
		+ Check
Rated speed rpm Del. quantity	: 100	tolerance mm : 0.7 Shutoff solenoid
cm3/1000 strokes	: 65.0	Volt : 12
Tolerance cm3/1000 strokes	: 25.0	Rated speed rpm : 1250
Shutoff solenoid Volt	: 12	+ Aneroid pressure + hPa : 1200
		+
		+ SV travel mm : 1.7
		Tolerance mm : 0.3
LOAD-DEPENDENT ST SETTING	ART OF DELIVERY	+ Check + tolerance mm : 0.7
		+ Shutoff solenoid
		1
DELIVERY DIFFEREN	ICE	+ Volt : 12
DELIVERY DIFFEREN Rated speed rpm	: 1400	+ Volt : 12 + Rated speed rpm : 1900
Rated speed rpm Pressure hPa		Rated speed rpm : 1900 Aneroid pressure
Rated speed rpm Pressure hPa Del. quantity	: 1400 : 1200	Rated speed rpm : 1900
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes	: 1400 : 1200	Rated speed rpm : 1900 Aneroid pressure hPa : 1200
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 1400 : 1200 : -22.0	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1400 : 1200 : -22.0	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1400 : 1200 : -22.0 : 1.0	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1400 : 1200 : -22.0	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1400 : 1200 : -22.0 : 1.0 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN	: 1400 : 1200 : -22.0 : 1.0 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm	: 1400 : 1200 : -22.0 : 1.0 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa	: 1400 : 1200 : -22.0 : 1.0 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2 : 0.1	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3 Shutoff solenoid
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2 : 0.1 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2 : 0.1 : 12	Rated speed rpm : 1900  Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12  Rated speed rpm : 800 Aneroid pressure
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2 : 0.1 : 12	Rated speed rpm : 1900 Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12  Rated speed rpm : 800 Aneroid pressure hPa : 1200
Rated speed rpm Pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  PRESSURE DIFFEREN Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA Rated speed rpm Aneroid pressure	: 1400 : 1200 : -22.0 : 1.0 : 12 CE : 1400 : 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1400	Rated speed rpm : 1900  Aneroid pressure hPa : 1200  SV travel mm : 5.7 Tolerance mm : 0.3 Check tolerance mm : 0.7 Shutoff solenoid Volt : 12  SUPPLY PUMP PRESSURE CHARACTERISTIC  Rated speed rpm : 1900 Aneroid pressure hPa : 1200 Supply pomp pressure bar : 9.6 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12  Rated speed rpm : 800 Aneroid pressure

Shutoff solenoid				+	Del. quantity		
Volt	:	12		+	cm3/1000 strokes	:	1.5
				+	Tolerance		
OVERFLOW QUANTITY				+	cm3/1000 strokes	:	1.5
		4000		+	Check tolerance		
Rated speed rpm	:	1900		+	cm3/1000s.	:	1.5
Aneroid pressure				+	Shutoff solenoid		
hPa	:	1200		+	Volt	:	12
Overflow quantity	•			+			
ccm/10s	:	138.8		+	Rated speed rpm	:	800
Tolerance				+	Aneroid pressure		
ccm/10s	:	41.6		+	hPa	:	450
				+			
Check tolerance				+	LDA/		<b>5</b> 6
ccm/10s	:	41.6		†	HBA stroke mm	:	5.8
Shutoff solenoid		40		+	Del. quantity		
Volt	:	12		+	cm3/1000 strokes	:	41.5
<b>8</b> 1 1 2 1 20		000		+	Tolerance		0.5
Rated speed rpm	:	800		†	cm3/1000 strokes	:	0.5
Aneroid pressure		4200		+	Check tolerance		7 -
hPa	;	1200		†	cm3/1000s.	:	3.5
Overflow quantity		97.2		†	Shutoff solenoid	_	12
ccm/10s	•	91.2		T	Volt	•	12
Tolerance ccm/10s		22.2		T	Doted aread non	:	1900
CCM/ TOS	•	26.2		T	Rated speed rpm Aneroid pressure	•	1900
Check tolerance				T	hPa		1200
ccm/10s		22.2		T		•	1200
Shutoff solenoid	•	۷۲.۲		T	Del. quantity cm3/1000 strokes		48.0
Volt		12		Ι	Tolerance	•	40.0
<b>7011</b>	•	12		Ι	cm3/1000 strokes		2.5
DELIVERY AND BREA	K A W	AY CHARAC	TEDISTIC	Ι	Check tolerance	•	۷.5
DECIVERY AND BREA	N/TW	AT CHARAC	IEMIDITO	Ι	cm3/1000s.		3.5
Rated speed rpm	:	2100		1	Shutoff solenoid	•	3.5
Aneroid pressure	•	2.02		1	Volt	:	12
hPa	:	1200		1			. •
Del. quantity	·			1	Rated speed rpm	:	800
cm3/1000 strokes	:	35.0		1	Del. quantity		
Tolerance				+	cm3/1000 strokes	:	28.5
cm3/1000 strokes	:	2.0		+	Tolerance		
Check tolerance				+	cm3/1000 strokes	:	2.5
cm3/1000s.	:	4.5		+	Check tolerance		
Shutoff solenoid				+	cm3/1000s.	:	3.5
Volt	:	12		+	Shutoff solenoid		
				+	Volt	:	12
Rated speed rpm	:	2000		+			
Aneroid pressure				+	Rated speed rpm	:	1750
hPa	:	1200		+	Aneroid pressure		
Del. quantity				+	hPa	:	1200
cm3/1000 strokes	:	45.0		+	Del. quantity		
Tolerance				+	cm3/1000 strokes	:	48.0
	:	4.0		+	Tolerance		
Check tolerance				+	cm3/1000 strokes	:	2.5
cm3/1000s.	:	6.0		+	Check tolerance		
Shutoff solenoid				+	cm3/1000s.	:	3.5
Volt	:	12		+	Shutoff solenoid		
		0700		†	Volt	:	12
Rated speed rpm	:	2300		†	Data da ana arta ara	_	900
Aneroid pressure		4200		Ť	Rated speed rpm	:	800
hPa	•	1200		T			

Aneroid pressure	_	4200	+			
hPa Del. quantity	;	1200	7	CHECKING LOAD-DEF		ENT
cm3/1000 strokes Tolerance	:	47.0	‡	START OF DELIVERY	1	
cm3/1000 strokes Check tolerance	:	4.5	1	DELIVERY DIFFEREN	1CE	
cm3/1000s. Shutoff solenoid	:	5.5	<u>†</u>	Rated speed rpm Aneroid pressure	:	1400
Volt	:	12	<u> </u>	hPa Del. quantity	:	1200
Rated speed rpm Aneroid pressure	:	1000	+	cm3/1000 strokes Tolerance	:	-24.0
hPa	:	1200	<del>-</del>	cm3/1000 strokes Check tolerance	:	3.0
Del. quantity cm3/1000 strokes	:	47.0	Ŧ	cm3/1000s.	:	4.0
Tolerance cm3/1000 strokes	:	0.5	+	Shutoff solenoid Volt	:	12
Check tolerance cm3/10UOS.	:	3.5	Ŧ	TIMING-DEVICE TRA	WEL	DIFFERENCE
Shutoff solenoid Volt	:	12	7	Rated speed rpm	:	1400
			Ţ	Aneroid pressure hPa	:	1200
ELECTR. SHUTOFF	LE 61	ΓΛD	+	Del. quantity cm3/1000 strokes Tolerance	:	-0.8
CONTROL LEVER, ID		300	Ŧ	cm3/1000 strokes Check tolerance	:	0.1
Rated speed rpm Del. quantity		1.5	Ŧ	cm3/1000s.	:	0.1
cm3/1000 strokes Tolerance			‡	Shutoff solenoid Volt	:	12
cm3/1000 strokes Check tolerance	•	1.5	Ŧ	DELIVERY DIFFEREN	IÇE	
cm3/1000s.	:	1.5	‡	Rated speed rpm	:	1400
FULL-LOAD STOP CO			‡	Aneroid pressure hPa	:	1200
Rated speed rpm Del. quantity	:	300	‡	Del. quantity cm3/1000 strokes	:	1.5
cm3/1000 strokes Tolerance		1.5	‡	Tolerance cm3/1000 strokes	:	1.5
cm3/1000 strokes Check tolerance	:	1.5	‡	Check tolerance cm3/1000S.	:	1.5
cm3/1000s.	:	1.5	‡	Shutoff solenoid Volt	:	12
IDLE DELIVERY			‡	TIMING-DEVICE TRA	VEL	DIFFERENCE
Rated speed rpm Del. quantity	:	425	‡	Rated speed rpm	:	1400
cm3/1000 strokes Tolerance		1.5	‡	Aneroid pressure hPa	:	1200
cm3/1000 strokes Check tolerance	:	1.5	‡	Tolerance mm Check	:	0.4
cm3/1000s. Shutoff solenoid	:	1.5	‡	tolerance mm Shutoff solenoid	:	0.4
Volt	:	12	‡	Volt	:	12
			‡	START TRANSITION		

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes : 8.0

Shutoff solenoid

Volt 12

200 Rated speed rpm

Del. quantity cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes 25.0

Shutoff solenoid

Volt 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 5.8

: K1 Dimension K mm Dimension KF mm : 6,0 Tolerance mm : +-0,2 MS1 dimension mm : 1,4

: +0,15/-0,1 : 7,0 Tolerance mm

KSB travel mm

CONTROL LEVER POSITION

SET

Control lever

: 37,9..39,9 position YA mm

Control lever

position YB mm : 44,1..49,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.11.95 Test oil : ISO 4113

Part no. : 0 460 414 134 Pump designation : VE4/11F1900R521-2

Customer-spec. information

Customer : IVECO-SOFIM : 8140.27.2585 Motor 76.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 1 Tolerance °C

Overflow

0.75restriction mm

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar 3 Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1400

Aneroid pressure

hPa 1200

3.4 Setting mm Tolerance mm 0.1 Shutoff solenoid

12

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1400

Aneroid pressure

hPa 1200

6.7 Setting hPa Tolerance hPa 0.3 Sautoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1750 Aneroid pressure

hPa 1200 Del. quantity cm3/1000 strokes : 51.0

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : 4.0 Check tolerance cm3/1000s.4.5

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 550 Del. quantity

cm3/1000 strokes : 27.0 Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

Check tolerance cm3/1000s.

4.5

IDLE SETTING

300 Rated speed rpm

Del. quantity

14.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes 2.0

Shutoff solenoid

12 Volt

Spread			1	Del. quantity			
cm3/1000 strokes Check tolerance	:	6.0	1	cm3/1000 strokes Tolerance	:	-1.0	
cm3/1000s.	:	6.5	1	cm3/1000 strokes Shutoff solenoid		0.1	
FULL-LOAD SPEED R	REGULAT	ION	‡	Volt	:	12	
	_		+				
Rated speed rpm Pressure hPa		050 1200	‡	INJECTION-PUMP TE			
Del. quantity cm3/1000 strokes	:	40.0	‡	TIMING DEVICE CHA			
Tolerance cm3/1000 strokes	:	2.0	‡	Rated speed rpm Aneroid pressure			
Shutoff solenoid Volt	:	12	+	hPa	:	1200	
			+	SV travel mm	:	5.1	
STARTING FUEL DEL	.IVERY		+	Tolerance mm Check	:	0.3	
Rated speed rpm Del. quantity	:	100	Ì	tolerance mm Shutoff solenoid	:	0.7	
cm3/1000 strokes Tolerance	:	70.0	1	Volt	:	12	
cm3/1000 strokes Shutoff solenoid	:	25.0	Ŧ	Rated speed rpm Aneroid pressure		1200	
Volt	:	12	Ŧ	hPa	:	1200	
			‡	SV travel mm	:	1.6	
LOAD-DEPENDENT ST	ART OF	DELIVERY	+	Tolerance mm Check	:	0.3	
SETTING			<u> </u>	tolerance mm Shutoff solenoid	:	0.7	
DELIVERY DIFFEREN	CE		<u>†</u>	Volt	:	12	
Rated speed rpm			Ŧ	Rated speed rpm		1900	
Pressure hPa Del. quantity		1200	‡	Aneroid pressure hPa	:	1200	
cm3/1000 strokes Tolerance	:	-8.0	‡	SV travel mm	:	5.7	
cm3/1000 strokes Shutoff solenoid	:	1.0	1	Tolerance mm Check	:	0.3	
Volt	:	12	+		:	0.7	
PRESSURE DIFFEREN	CE		Ŧ	Volt	:	12	
Rated speed rpm Aneroid pressure	: 1	400	1	SUPPLY PUMP PRESS	URE	CHARACTERISTIC	
hPa	:	1200	+	Rated speed rpm Aneroid pressure	:	1900	
Del. quantity cm3/1000 strokes	:	-0.2	Ŧ	hPa	:	1200	
Tolerance cm3/1000 strokes	:	0.1	Ŧ	Supply pomp pressure bar	:	8.8	
Shutoff solenoid Volt	:	12	‡	Tolerance hPa Shutoff solenoid	:	0.3	
TIMING-DEVICE TRA	VEL DI	FFERENCE	‡	Volt	:	12	
Rated speed rpm		400	‡	Rated speed rpm Aneroid pressure	:	700	
Aneroid pressure hPa	:	1200	+	hPa	:	1200	
			•				

Supply pomp	;	3.7	‡	Aneroid pressure hPa	:	1200
Tolerance hPa Shutoff solenoid	:	0.3	‡	Del. quantity cm3/1000 strokes	:	1.5
Volt	:	12	†	Tolerance cm3/1000 strokes	:	1.5
OVERFLOW QUANTITY			<u> </u>	Check tolerance cm3/1000s.	•	1.5
Rated speed rpm Aneroid pressure	;	1900	Ŧ	Shutoff solenoid Volt	•	12
hPa	:	1200	+		•	_
Overflow quantity ccm/10s	:	152.7	‡	Rated speed rpm Aneroid pressure	:	800
Tolerance ccm/10s	•	41.6	1	hPa	:	500
	•	47.0	Ŧ	LDA/		
Check tolerance ccm/10s	•	41.6	‡	HBA stroke mm Del. quantity	:	4.7
Shutoff solenoid	•		+	cm3/1000 strokes	:	42.0
Volt	:	12	‡	Tolerance cm3/1000 strokes	.•	0.5
Rated speed rpm	:	700	+	Check tolerance cm3/1000s.		3.5
Aneroid pressure hPa	:	1200	Ţ	Shutoff solenoid	•	
Overflow quantity ccm/10s		111.1	1	Volt	:	12
Tolerance	•		Ŧ	Rated speed rpm	:	1900
ccm/10s	:	22.2	‡	Aneroid pressure hPa	:	1200
Check tolerance		22.2		Del. quantity		
ccm/10s Shutoff solenoid	:	22.2	‡	cm3/1000 strokes Tolerance	:	50.0
Volt	:	12	†	cm3/1000 strokes Check tolerance	:	2.5
DELIVERY AND BREA	KAWA	Y CHARACTERISTI	c Ŧ	cm3/1000s.	:	3.5
Rated speed rpm	:	2050	‡	Shutoff solenoid Volt	•	12
Aneroid pressure	•		+		•	
hPa Del. quantity	:	1200	‡	Rated speed rpm Del. quantity	:	800
cm3/1000 strokes	:	40.0	+	cm3/1000 strokes Tolerance	:	30.0
Tolerance cm3/1000 strokes Check tolerance	:	2.0	Ŧ	cm3/1000 strokes Check tolerance	:	2.5
cm3/1000s.	:	4.5	Ŧ	cm3/1000s.	:	3.5
Shutoff solenoid Volt	:	12	‡	Shutoff solenoid Volt	<b>:</b>	12
Rated speed rpm	:	2150	‡	Rated speed rpm	:	1000
Aneroid pressure hPa		1200	<u> </u>	Aneroid pressure hPa		1200
Del. quantity	•		+	Del. quantity	•	
cm3/1000 strokes Check tolerance	:	21.0	‡	cm3/1000 strokes Tolerance	:	50.5
cm3/1000S.	:	6.0	+	cm3/1000 strokes Check tolerance	:	2.5
Shutoff solenoid Volt	:	12	Ŧ	cm3/1000s.	:	4.0
Rated speed rpm	:	2300	‡	Shutoff solenoid Volt	:	12
havea speed i piii	•		+	• •	•	

Rated speed rpm	:	700	+	Del. quantity
Aneroid pressure			+	cm3/1000 strokes : 35.0
hPa	:	1200	+	Tolerance
Del. quantity cm3/1000 strokes		54.0	İ	cm3/1000 strokes : 5.0 Check tolerance
Tolerance	•	J <b>4,</b> 0	Ţ	cm3/1000s. : 6.0
cm3/1000 strokes	:	4.5	+	Shutoff solenoid
Check tolerance		F	+	Volt : 12
cm3/1000s. Shutoff solenoid	•	<b>5.</b> 5	Ī	
Volt	:	12	1	
		4777	+	
Rated speed rpm Aneroid pressure	:	1750	1	CHECKING LOAD-DEPENDENT
hPa	:	1200	Ţ	START OF DELIVERY
Del. quantity			+	
cm3/1000 strokes	:	51.0	†	DELIVERY DIFFERENCE
Tolerance cm3/1000 strokes	•	0.5	Ī	Rated speed rpm : 1400
Check tolerance	•	0.5	+	Aneroid pressure
cm3/1000s.	:	3.5	+	hPa : 1200
Shutoff solenoid Volt	•	12	1	Del. quantity cm3/1000 strokes : -12.0
VOCC	•	14	Į	Tolerance
			+	cm3/1000 strokes : 3.0
ELECTR CHUTCE			+	Check tolerance
ELECTR. SHUTOFF CONTROL LEVER, ID	NF ST	TOP	Ī	cm3/1000s. : 4.0 Shutoff solenoid
CONTINUE EEFENY 10			+	Volt : 12
Rated speed rpm	:	300	+	T744710 A511705 T041151 A75555105
Del. quantity cm3/1000 strokes	•	1.5	İ	TIMING-DEVICE TRAVEL DIFFERENCE
Tolerance	•	1.5	1	Rated speed rpm : 1400
cm3/1000 strokes	:	1.5	+	Aneroid pressure
Check tolerance cm3/1000s.		1.5	+	hPa : 1200 Del. quantity
Chia/ (UUUS.	•	1.5	Į	cm3/1000 strokes : -1.0
FULL-LOAD STOP CO	NTROL	LEVER	+	Tolerance
Data dan and ann		700	+	cm3/1000 strokes : 0.1
Rated speed rpm Del. quantity	:	300	Ī	Check tolerance cm3/1000s. : 0.1
cm3/1000 strokes	:	1.5	+	Shutoff solenoid
Tolerance			+	Volt : 12
cm3/1000 strokes Check tolerance	:	1.5	1	DELIVERY DIFFERENCE
cm3/1000s.	:	1.5	Ţ	DEELACK DIFFERENCE
			+	Rated speed rpm : 1400
IDLE DELIVERY			+	Aneroid pressure hPa : 1200
Rated speed rpm	:	450	Ī	Del. quantity
Del. quantity	•		+	c 7/1000 strokes : 1.5
cm3/1000 strokes	:	1.5	+	Tolerance
Tolerance cm3/1000 strokes	•	1.5	1	cm3/1000 strokes : 1.5 Check tolerance
Check tolerance	•	1.0	1	cm3/1000s. : 1.5
cm3/1000s.	:	1.5	+	Shutoff solenoid
Shutoff solenoid	•	12	<u>†</u>	Volt : 12
Volt	•	12	I	TIMING-DEVICE TRAVEL DIFFERENCE
Rated speed rpm	:	250	+	

Rated speed rpm 1400 Aneroid pressure hPa 1200 Tolerance mm 0.4 Check 0.4 tolerance mm Shutoff solenoid 12 Volt START TRANSITION 500 Rated speed rpm Del. quantity 24.0 cm3/1000 strokes : Tolerance cm3/1000 strokes 8.0 Shutoff solenoid 12 Volt Rated speed rpm 200 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : 25.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm : 3,3 Dimension K mm : +-0,1 Tolerance mm : 8,4 Dimension KF mm Tolerance mm : +-0,2 : 1,5 MS1 dimension mm : +0,15/0,1 Tolerance mm : 7,0 KSB travel mm CONTROL LEVER POSITION SET Control lever : 36,9..40,9 position YA mm Control lever : 44,5..49,7 position YB mm End of test-specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS							
Note remarks							
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/							
Edition : 19.10.95 Test oil : ISO 4113							
Part no. : 0 460 414 122 Pump designation : VE4/11F1900R522-2							
Customer-spec. information Customer : IVECO-SOFIM Motor : 8140.27.3700 Power KW : 76.0							
TEST BENCH REQUIREMENTS							
Calibrating-oil return temperature °C : 45 Tolerance °C : 1							
Overflow restriction mm : 0.75							
Inlet press. bar : 0.35 Tolerance bar : 0.05							
Test nozzle holde assembly : 1 688 901 027							
Opening pressure bar : 250 Tolerance bar : 3							
Test Lines : 1 680 750 073							
Outside diameter : 6.00							
x inside diameter : 2.00 x length mm : 450							

Anamaid naceum	•	1400
Aneroid pressure hPa	:	1200
Setting mm Tolerance mm	:	3.4 0.1
Shutoff solenoid Volt	:	12
SUPPLY PUMP PRESS	SURE	
Rated speed rpm	:	1400
Aneroid pressure hPa	:	1200
Setting hPa Tolerance hPa	:	6.7 0.3
Shutoff solenoid Volt	:	12
FULL-LOAD DELIVER	RY W	ITH BOOST PRESSURE
Rated speed rpm	:	1750
Aneroid pressure hPa	:	1200
Del. quantity cm3/1000 strokes Tolerance	:	51.0
cm3/1000 strokes Spread	:	0.5
cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s. Shutoff solenoid	:	4.5
Volt	:	12
	WIT	HOUT BOOST PRESSURE
Rated speed rpm Del. quantity	:	550
cm3/1000 strokes Tolerance	:	27.0
cm3/1000 strokes Shutoff solenoid	:	0.5 12
Volt Check tolerance cm3/1000s.	:	4.5
IDLE SETTING	•	4.5
Rated speed rpm	:	300
Del. quantity cm3/1000 strokes	:	14.0
Tolerance cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	12

TIMING DEVICE TRAVEL

Rated speed rpm : 1400

REMARKS

INJECTION PUMP SETTING VALUES

Spread cm3/1000 strokes	: 6.0	Del. quantity cm3/1000 strokes :	-1.0
Check tolerance cm3/1000s.	: 6.5	Tolerance cm3/1000 strokes :	0.1
FULL-LOAD SPEED R	REGULATION -	Shutoff solenoid Volt :	12
	-		······································
Rated speed rpm Pressure hPa	: 2050 : 1200	- INJECTION-PUMP TEST	
Del. quantity cm3/1000 strokes	: 40.0	TIMING DEVICE CHARA	
Tolerance cm3/1000 strokes	: 2.0	Rated speed rpm : Aneroid pressure	
Shutoff solenoid Volt	: 12	- hPa : -	1200
	=	- SV travel mm :	5.1
STARTING FUEL DEL	IVERY -	- Tolerance mm : - Check	0.3
Rated speed rpm Del. quantity	: 100	<ul><li>tolerance mm :</li><li>Shutoff solenoid</li></ul>	0.7
cm3/1000 strokes Tolerance	: 70.0	- Volt :	12
cm3/1000 strokes Shutoff solenoid	: 25.0	- Rated speed rpm : - Aneroid pressure	1200
Volt	: 12	- hPa :	1200
		- SV travel mm :	1.6
LOAD-DEPENDENT ST	ART OF DELIVERY	- Tolerance mm : - Check	0.3
SETTING	ART OF DEETVERT	- tolerance mm : - Shutoff solenoid	0.7
DELIVERY DIFFEREN	CE	- Volt :	12
Rated speed rpm	: 1400	- Rated speed rpm :	1900
Pressure hPa Del. quantity	: 1200	- Aneroid pressure - hPa :	1200
cm3/1000 strokes Tolerance	: -8.0	- SV travel mm :	5.7
cm3/1000 strokes	: 1.0	Tolerance mm :	0.3
Shutoff solenoid Volt	: 12	- Check - tolerance mm :	0.7
PRESSURE DIFFEREN	CE	Shutoff solenoid Volt :	12
Rated speed rpm	: 1400	-    SUPPLY PUMP PRESSURI	E CHARACTERISTIC
Aneroid pressure	: 1200	. Rated speed rpm :	1900
Del. quantity cm3/1000 strokes	<del>}</del>	Aneroid pressure hPa :	1200
Tolerance cm3/1000 strokes	+	Supply pomp pressure bar :	8.8
Shutoff solenoid Volt	: 12	Tolerance hPa : Shutoff solenoid	0.3
TIMING-DEVICE TRA	+	Volt :	12
	: 1400	Rated speed rpm : Aneroid pressure	700
Aneroid pressure	+	hPa :	1200
hPa	: 1200 +	•	

Supply pomp pressure bar	;	3.7	‡	Aneroid pressure hPa	:	1200
Tolerance hPa Shutoff solenoid	:	0.3	+	Del. quantity cm3/1000 strokes		1.5
Volt	:	12	Ţ	Tolerance	•	
OVERFLOW QUANTITY			<u> </u>	cm3/1000 strokes Check tolerance	;	1.5
			+	cm3/1000s.	:	1.5
Rated speed rpm Aneroid pressure	:	1900	1	Shutoff solenoid Volt		12
hPa	:	1200	Ţ	VOCC	•	12
Overflow quantity		450 7	+	Rated speed rpm	:	800
ccm/10s Tolerance	:	152.7	İ	Aneroid pressure hPa		500
ccm/10s	:	41.6	1	in u	•	200
			+	LDA/		, -
Check tolerance ccm/10s	•	41.6	Ī	HBA stroke mm Del. quantity	:	4.7
Shutoff solenoid	•		+		:	42.0
Volt	:	12	+	Tolerance		0.5
Rated speed rpm	:	700	Ī	cm3/1000 strokes Check tolerance	:	0.5
Aneroid pressure	•		+	cm3/1000s.	:	3.5
hPa	:	1200	+	Shutoff solenoid		40
Overflow quantity ccm/10s	•	111.1	Ī	Volt	:	12
Tolerance	·		+	Rated speed rpm	:	1900
ccm/10s	:	22.2	+	Aneroid pressure	_	1200
Check tolerance			1	hPa Del. quantity	:	1200
ccm/10s	:	22.2	+	cm3/1000 strokes	:	50.0
Shutoff solenoid		12	†	Tolerance cm3/1000 strokes	:	2.5
Volt	•	12	Ī	Check tolerance	•	2.5
DELIVERY AND BREAK	KAWA	Y CHARACTERIST	rc 🕂	cm3/1000S.	:	3.5
Rated speed rpm		2050	<u> </u>	Shutoff solenoid Volt		12
Aneroid pressure	•	2070	Į	۷٥٢٢	•	12
hPa	:	1200	+	Rated speed rpm	:	800
Del. quantity cm3/1000 strokes	•	40.0	1	Del. quantity cm3/1000 strokes	•	30.0
Tolerance	•		+	Tolerance	•	
cm3/1000 strokes	:	2.0	+	cm3/1000 strokes Check tolerance	:	2.5
Check tolerance cm3/1000s.	:	4.5	I	cm3/1000s.	:	3.5
Shutoff solenoid			+	Shutoff solenoid		
Volt	:	12	1	Volt	:	12
Rated speed rpm	:	2150	Ţ	Rated speed rpm	:	1000
Aneroid pressure		4200	+	Aneroid pressure		4200
hPa Del. quantity	:	1200	1	hPa Del. quantity	:	1200
cm3/1000 strokes	:	21.0	+	cm3/1000 strokes	:	50.5
Check tolerance		4 0	†	Tolerance		2.5
cm3/1000S. Shutoff solenoid	•	6.0	1	cm3/1000 strokes Check tolerance	:	۷.5
Volt	:	12	+	cm3/1000S.	:	4.0
Rated speed rpm	:	2300	†	Shutoff solenoid Volt		12
nated speed thin	•	2000	Į	<b>VOCC</b>	•	12
			•			

Rated speed rpm	:	700	+	Del. quantity			
Aneroid pressure		4200	+	cm3/1000 strokes	:	35.0	
hPa Del. quantity	:	1200	1	Tolerance cm3/1000 strokes	:	5.0	
cm3/1000 strokes	:	54.0	+	Check tolerance	•		
Tolerance cm3/1000 strokes		4,5	1	cm3/1000s. Shutoff solenoid	:	6.0	
Check tolerance	•		Ţ	Volt	:	12	
cm3/1000s.	:	5.5	†				
Shutoff solenoid Volt	:	12	1				
Data da ana ada ana		4750	+				
Rated speed rpm Aneroid pressure	:	1750	Ī	CHECKING LOAD-DEP	FND	ENT	
hPa	:	1200	+	START OF DELIVERY			
Del. quantity cm3/1000 strokes	•	51.0	1	DELIVERY DIFFEREN	lCE		
Tolerance			+				
cm3/1000 strokes Check tolerance	:	0.5	†	Rated speed rpm Aneroid pressure	:	1400	
cm3/1000s.	:	3.5	Ţ	hPa	:	1200	
Shutoff solenoid		10	+	Del. quantity		42.0	
Volt	•	12	Ţ	cm3/1000 strokes Tolerance	:	-12.0	
			+	cm3/1000 strokes	:	3.0	
ELECTR. SHUTOFF			‡	Check tolerance cm3/1000s.	•	4.0	
CONTROL LEVER, ID	LE S	TOP	+	Shutoff solenoid	·		
Rated speed rpm	:	300	1	Volt	:	12	
Del. quantity			+	TIMING-DEVICE TRA	VEL	DIFFERENCE	
cm3/1000 strokes Tolerance	:	1.5	†	Rated speed rpm	:	140)	
cm3/1000 strokes	:	1.5	Ţ	Aneroid pressure	•	1400	
Check tolerance		4 -	+	hPa	:	1200	
cm3/1000s.	:	1.5	Ī	Del. quantity cm3/1000 strokes	:	-1.0	
FULL-LOAD STOP CO	NTROL	LEVER	+	Tolerance			
Rated speed rpm	•	300	‡	cm3/1000 strokes Check tolerance	:	0.1	
Del. quantity	•		+	cm3/1000s.	:	0.1	
cm3/1000 strokes Tolerance	:	1.5	1	Shutoff solenoid Volt		12	
cm3/1000 strokes	:	1.5	+		•	72	
Check tolerance cm3/1000s.		1.5	1	DELIVERY DIFFEREN	CE		
CIII 57 10003.	•	1.5	1	Rated speed rpm	:	1400	
IDLE DELIVERY			†	Aneroid pressure hPa		1200	
Rated speed rpm	:	450	Į	Del. quantity	•	1200	
Del. quantity			+	cm3/1000 strokes	:	1.5	
cm3/1000 strokes Tolerance	;	1.5	I	Tolerance cm3/1000 strokes	:	1.5	
cm3/1000 strokes	:	1.5	+	Check tolerance			
Check tolerance cm3/1000s.	:	1.5	‡	cm3/1000S. Shutoff solenoid	:	1.5	
Shutoff solenoid	٠		+	Volt	:	12	
Volt	:	12	1	TIMING-DEVICE TRAV	//FI	DIFFERENCE	
Rated speed rpm	:	250	Ţ	ITITING PENTOE INV	<b>∀</b> L.L	OT LEIVELACE	

B08

Rated speed rpm Aneroid pressure	: 1400
hPa Tolerance mm	: 1200 : 0.4
Check tolerance mm	: 0.4
Shutoff solenoid Volt	: 12
START TRANSITION	
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 23.0
Tolerance cm3/1000 strokes	: 4.0
Shutoff solenoid Volt	: 12
Data dan ada	. 200
Rated speed rpm Del. quantity	: 200
cm3/1000 strokes	: 80.0
Tolerance	
cm3/1000 strokes	: 25.0
cm3/1000 strokes Shutoff solenoid Volt	: 25.0 : 12 USTMENT DIMENSIONS
cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm MS1 dimension mm	: 12  USTMENT DIMENSIONS  : 4.7 : 3,3 : +-0,1 : - : 1,4 : +0,15/-0,1
cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm MS1 dimension mm Tolerance mm	: 12  USTMENT DIMENSIONS  : 4.7 : 3,3 : +-0,1 : - : 1,4 : +0,15/-0,1 : 10,0
cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm MS1 dimension mm Tolerance mm KSB travel mm	: 12  USTMENT DIMENSIONS  : 4.7 : 3,3 : +-0,1 : - : 1,4 : +0,15/-0,1 : 10,0

BOSCH	INJ.	PUMP	TEST	SPECIFICATIONS

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.03.95 Test oil : ISO 4113

Part no. : 0 460 484 067 Pump designation : VE4/8F2300R537

Customer-spec. information
Customer : FIAT-AUTO
Motor : M708 HT 17.D
Power KW : 53.0

#### TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm : 1500 Aneroid pressure

hPa : 1000

Setting mm : 4.1
Tolerance mm : 0.1

Shutoff solenoid

Volt : 12

KSB/AFB Volt : 12

# SUPPLY PUMP PRESSURE

Rated speed rpm : 1500 Aneroid pressure

hPa : 1000

Setting hPa : 5.5 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

KSB/AFB Volt : 12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000
Del. quantity
cm3/1000 strokes : 41.5
Tolerance
cm3/1000 strokes : 0.5
Spread

cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 2.5

Shutoff solenoid Volt : 12

KSB/AFB Volt : 12

#### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 750 Del. quantity

cm3/1000 strokes : 28.5

Tolerance

cm3/1000 strokes : 0.5
Shutoff solenoid
Volt : 12
Check tolerance

cm3/1000s. : 2.5

KSB/AFB Volt : 12

~ ` '		150	1 • •	
Rated speed rpm	:	450	+ Aneroid pressure	
Del. quantity		45.5	† hPa : 1000	
cm3/1000 strokes	:	12.0	+	
Tolerance			+ SV travel mm : 1.4	
cm3/1000 strokes	:	2.0	† Tolerance mm : 0.3	
Shutoff solenoid			Check	
Volt		12	tolerance mm : 0.6	
	•	16		
Spread			+ Shutoff solenoid	
cm3/1000 strokes	:	2.5	+ Volt : 12	
Check tolerance			+	
c <b>m</b> 3/1000s.	:	2.5	∔ KSB/AFB Volt : 12	
			1	
KSB/AFB Volt	:	12	Rated speed rpm : 400	
KOD/AID VOCE	•	12	, , , , , , , , , , , , , , , , , , , ,	
			+ Aneroid pressure	
			+ hPa : 1000	
FULL-LOAD SPEED F	KEGUL	_ATION	+	
			+ SV travel mm : 1.5	
Rated speed rpm	:	2500	+ Tolerance mm : 1.0	
Pressure hPa	•	1000	Check	
Del. quantity	•	1000		
		70 °	· · · · · · · · · · · · · · · · · · ·	
cm3/1000 strokes	:	30.5	+ Shutoff solenoid	
Tolerance			† Volt : 12	
cm3/1000 strokes	:	2.0	+	
Shutoff solenoid			+ Rated speed rpm : 1100	
Volt	•	12	+ Aneroid pressure	
VOCE	•	16	+ hPa : 1000	
KOD (AED Male		40	† 11ra : 1000	
KSB/AFB Volt	:	12	<b>†</b>	
			+ SV travel mm : 3.0	
STARTING FUEL DEL	IVER	<b>Υ</b> Υ	+ Tolerance mm : 1.0	
			∔ Check	
Rated speed rpm	:	100	tolerance mm : 1.7	
Del. quantity	•	100	+ Shutoff solenoid	
	_	/7 0		
cm3/1000 strokes	•	47.0	† Volt : 12	
Tolerance			†	
cm3/1000 strokes	:	12.0	+ Rated speed rpm : 2300	
Shutoff solenoid			+ Aneroid pressure	
Volt	:	12	+ hPa : 1000	
	-			
KCB/AER Vol+		12	$\pm$ SV travel mm $\cdot$ 8.2	
KSB/AFB Volt	:	12	+ SV travel mm : 8.2	
KSB/AFB Volt	:	12	† Tolerance mm : 0.3	
KSB/AFB Volt	:	12	Tolerance mm : 0.3 Check	
KSB/AFB Volt	:	12	Tolerance mm : 0.3 Check tolerance mm : 0.6	
KSB/AFB Volt	:	12	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid	
KSB/AFB Volt	:	12	Tolerance mm : 0.3 Check tolerance mm : 0.6	
			Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid	
KSB/AFB Volt  INJECTION-PUMP TE			Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12	
INJECTION-PUMP TE	ST S	PECIFICATIONS	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid	
	ST S	PECIFICATIONS	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12 KSB/AFB Volt : 12	
INJECTION-PUMP TE	ST S	PECIFICATIONS ERISTIC	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12	TC.
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm	ST S	PECIFICATIONS	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12 KSB/AFB Volt : 12 SUPPLY PUMP PRESSURE CHARACTERIST	īC
INJECTION-PUMP TE	ST S	PECIFICATIONS ERISTIC 2000	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12 KSB/AFB Volt : 12	TC
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure	ST S	PECIFICATIONS ERISTIC	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300	TC
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	ST S	PECIFICATIONS ERISTIC 2000 1000	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure	TIC
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm	ST S	PECIFICATIONS ERISTIC 2000	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure hPa : 1000	IC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check	ST S	PECIFICATIONS PERISTIC 2000 1000 0.3	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp	IC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm	ST S	PECIFICATIONS ERISTIC 2000 1000	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6	ïC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid	ST S	PECIFICATIONS ERISTIC 2000 1000 0.3 0.6	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3	TC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm	ST S	PECIFICATIONS PERISTIC 2000 1000 0.3	Tolerance mm : 0.3  Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST  Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3 Shutoff solenoid	TC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid	ST S	PECIFICATIONS PERISTIC 2000 1000 0.3 0.6 12	Tolerance mm : 0.3 Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3	TC
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt	ST S	PECIFICATIONS ERISTIC 2000 1000 0.3 0.6	Tolerance mm : 0.3  Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST  Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3 Shutoff solenoid	TC
INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid	ST S RACT : :	PECIFICATIONS PERISTIC 2000 1000 0.3 0.6 12	Tolerance mm : 0.3  Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST  Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12	TC
INJECTION—PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt	ST S RACT : :	PECIFICATIONS PERISTIC 2000 1000 0.3 0.6 12	Tolerance mm : 0.3  Check tolerance mm : 0.6 Shutoff solenoid Volt : 12  KSB/AFB Volt : 12  SUPPLY PUMP PRESSURE CHARACTERIST  Rated speed rpm : 2300 Aneroid pressure hPa : 1000 Supply pomp pressure bar : 7.6 Tolerance hPa : 0.3 Shutoff solenoid	TC

Rated speed rpm	:	1000		+	Del. quantity		
Aneroid pressure hPa		1000		Ţ	cm3/1000 strokes Check tolerance	:	10.5
Supply pomp	•	1000		Į	cm3/1000s.	:	5.0
pressure bar	:	4.2		+	Shutoff solenoid		4.0
Tolerance hPa Shutoff solenoid	:	0.3		İ	Volt	:	12
Volt	:	12		+	KSB/AFB Volt	:	12
KSB/AFB Volt		12		+	Rated speed rpm	:	2900
NOB/AFB VOLL	•	12		Į	Aneroid pressure	•	2900
OVERFLOW QUANTITY				+	hPa	:	1000
Rated speed rpm	•	750		1	Del. quantity cm3/1000 strokes	:	1.5
Overflow quantity				+	Tolerance		
ccm/10s	:	63.8		+	cm3/1000 strokes	:	1.5
Tolerance ccm/10s	:	22.2		Ī	Check tolerance cm3/1000s.	•	1.5
	•			+	Shutoff solenoid	•	
Check tolerance		22.2		+	Volt	:	12
ccm/10s Shutoff solenoid	•	22.2		I	KSB/AFB Volt	:	12
Volt	:	12		+		-	
KSB/AFB Volt		12		+	Rated speed rpm	:	1100
NOB/AFB VOLL	:	12		I	Aneroid pressure hPa	:	350
Rated speed rpm	:	2300		+			
Aneroid pressure hPa		1000		+	LDA/ HBA stroke mm		5.1
Overflow quantity	•	1000		I	Del. quantity	:	١ . د
ccm/10s	:	97.2		+	cm3/1000 strokes	:	35.5
Tolerance ccm/10s		41.6		†	Tolerance cm3/1000 strokes	:	0.5
CCIII/ TOS	•	41.0		Ţ	Check tolerance	•	0.5
Check tolerance				+	cm3/1000s.	:	2.5
ccm/10s Shutoff solenoid	:	41.6		1	Shutoff solenoid Volt		12
Volt	:	12		Ţ	VOCE	•	12
Izom /Amm - N. I.		40		+	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12		1	Rated speed rpm	•	2300
DELIVERY AND BREAK	KAWA	Y CHARACT	ERISTIC	+	Aneroid pressure	•	
Data da sasa da sasa		2500		†	hPa	:	1000
Rated speed rpm Aneroid pressure	:	2300		Ī	Del. quantity cm3/1000 strokes	:	41.5
hPa	:	1000		+	Tolerance		
Del. quantity cm3/1000 strokes		30.5		†	cm3/1000 strokes Check tolerance	:	1.0
Tolerance	•	30.5		Ţ	cm3/1000s.	:	2.3
cm3/1000 strokes	:	2.0		+	Shutoff solenoid		
Check tolerance cm3/1000s.		5.0		1	Volt	:	12
Shutoff solenoid	•	ا.0		Ţ	KSB/AFB Volt	:	12
Volt	:	12		+			4400
KSB/AFB Volt	:	12		İ	Rated speed rpm Del. quantity	:	1100
NOD/ AI D VOCE	•			+	cm3/1000 strokes	:	30.5
Rated speed rpm	:	2700		+	Tolerance		1 5
Aneroid pressure hPa	•	1000		1	cm3/1000 strokes	:	1.5
111 Q	•	1000		I			

Check tolerance		+	Shutoff solenoid			
cm3/1000s. Shutoff solenoid	: 2.5	‡	Volt	:	12	
Volt	: 12	Ì	KSB/AFB Volt	:	12	
KSB/AFB Volt	: 12	1	Rated speed rpm Del. quantity	:	400	
Rated speed rpm	: 750	+	cm3/1000 strokes Tolerance	:	23.0	
Aneroid pressure hPa Del. quantity	: 1000	Ŧ	cm3/1000 strokes Shutoff solenoid	:	2.5	
cm3/1000 strokes Tolerance	: 40.5	Ŧ	Volt	:	12	
cm3/1000 strokes Check tolerance	: 1.5	$\frac{1}{2}$	KSB/AFB Volt	:	12	
cm3/1000s. Shutoff solenoid	: 2.5	$\frac{1}{2}$				
Volt	: 12	1				
KSB/AFB Volt	: 12	+	EVILABET CAS DECIS	CUL A	TION	
Rated speed rpm	: 1500	‡	EXHAUST-GAS RECIF	KULA		
Aneroid pressure hPa	: 1000	‡	Rated speed rpm Aneroid pressure	:	1100	
hel. quantity cm3/1000 strokes	: 41.5	<u> </u>	hPa Del. quantity	:	1000	
Tolerance cm3/1000 strokes		<u>†</u>	cm3/1000 strokes Tolerance	:	20.0	
Check tolerance cm3/1000s.	: 2.0	<u>†</u>	cm3/1000 strokes Check tolerance	:	1.0	
Shutoff solenoid		+	cm3/1000s.	:	2.5	
Volt	: 12	‡	Shutoff solenoid Volt	:	12	
ELECTR. SHUTOFF		<del></del> ‡	KSB/AFB Volt	:	12	
CONTROL LEVER, ID	LE STOP	Ţ	START TRANSITION			
Rated speed rpm Del. quantity	: 450	1	Rated speed rpm Del. quantity	:	600	
cm3/1000 strokes Tolerance	: 1.5	<u> </u>	cm3/1000 strokes Tolerance	:	24.0	
cm3/1000 strokes Check tolerance	: 1.5	+	cm3/1000 strokes Shutoff solenoid		10.0	
cm3/1000s. Spread	: 1.5	<u> </u>	Volt	:	12	
cm3/1000 strokes	: 5.0	1	KSB/AFB Volt	:	12	
KSB/AFB Volt	: 12	‡	Rated speed rpm	:	300	
IDLE DELIVERY		‡	Del. quantity cm3/1000 strokes	:	47.0	
Rated speed rpm	: 550	‡	Tolerance cm3/1000 strokes Shutoff solenoid	:	10.0	
Del. quantity cm3/1000 strokes	: 1.5	Ŧ	Volt	:	12	
Tolerance cm3/1000 strokes	: 1.5	Ŧ	KSB/AFB Volt	:	12	
Check tolerance cm3/1000s.	: 1.5	Į				

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5.1

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,4
Tolerance mm : +-0,2

POTENTIOMETER

SET

1. measurement

voltage Volt : 5,0

1. measurement

voltage Volt : 3,32

MICROSWITCH

SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 43,9..52,5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.08.95 Test oil : ISO 4113

Part no. : 0 460 484 083 Pump designation : VE4/8F2300R537-1

Customer-spec. information
Customer : FIAT-AUTO
Motor : M708 HT 17.D
Power KW : 53.0

#### TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting mm : 4.4
Tolerance mm : 0.1
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

### SUPPLY PUMP PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000
Setting hPa : 5.8
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12
KSB/AFB Volt : 12

### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1500 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 41.5 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.5 Check tolerance 2.5 cm3/1000s. Shutoff solenoid 12 Volt KSB/AFB Volt 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 750 Del. quantity cm3/1000 strokes : 31.5 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid 12 Volt Check tolerance 2.5 cm3/1000s. 12 KSB/AFB Volt

Rated speed rpm Del. quantity	: 450	Aneroid pressure	: 1000
cm3/1000 strokes	: 10.0	1	4.5
Tolerance cm3/1000 strokes Shutoff solenoid	: 2.0	+ SV travel mm + Tolerance mm + Check	: 1.5 : 0.3
Volt Spread	: 12	tolerance mm Shutoff solenoid	: 0.6
cm3/1000 strokes Check tolerance	: 2.5	Volt	: 12
cm3/1000s.	: 2.5	KSB/AFB Volt	: 12
KSB/AFB Volt	: 12	Rated speed rpm Aneroid pressure	: 450
FULL-LOAD SPEED R	FGIII ATTON	hPa	: 1000
1000 0010 01000 11	2002/11/2014	→ SV travel mm	: 1.5
Rated speed rpm	: 2500	† Tolerance mm	: 1.0
Pressure hPa	: 1000	+ Check	4 <b>7</b>
Del. quantity cm3/1000 strokes	: 32.5	tolerance mm Shutoff solenoid	: 1.3
Tolerance		+ Volt	: 12
cm3/1000 strokes Shutoff solenoid	: 2.0	t Botod aroad and	: 1100
Volt	: 12	+ Rated speed rpm + Aneroid pressure	: 1100
KSE/AFB Volt	: 12	hPa	: 1000
NOCIALD VOCC	• 14	+ SV travel mm	: 3.0
STARTING FUEL DEL	IVERY	Tolerance mm	: 1.0
Rated speed rpm Del. quantity	: 100	+ Check + tolerance mm + Shutoff solenoid	: 1.7
cm3/1000 strokes	: 47.0	Volt	: 12
Tolerance cm3/1000 strokes	: 12.0	Rated speed rpm	: 2300
Shutoff solenoid Volt	: 12	+ Aneroid pressure + hPa	: 1000
KSB/AFB Volt	: 12	SV travel mm	: 7.8
		+ Tolerance mm	: 0.3
		+ Check + tolerance mm	: 0.6
		Shutoff solenoid	
INJECTION-PUMP TE	CAT CONCERNATIONS	- + Volt	: 12
		KSB/AFB Volt	: 12
TIMING DEVICE CHAP		SUPPLY PUMP PRESSU	RE CHARACTERISTIC
Rated speed rpm	: 2000	t Dated around the	: 2300
Aneroid pressure hPa	: 1000	+ Rated speed rpm	: 2300
nra Tolerance mm	: 0.3	+ Aneroid pressure + hPa	: 1000
Check		+ Supply pomp	
tolerance mm	: 0.6	pressure bar	: 8.1
Shutoff solenoid	. 43	+ Tolerance hPa	: 0.3
Volt	: 12	+ Shutoff solenoid + Volt	: 12
KSB/AFB Volt	: 12	+	
Rated speed rpm	: 1000	+ KSB/AFB Volt	: 12
- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		•	

Rated speed rpm	:	1000		+	Del. quantity		40.5
Aneroid pressure hPa	:	1000		‡	cm3/1000 strokes Check tolerance	:	12.5
Supply pomp	•			+	cm3/1000s.	:	5.0
pressure bar	:	4.2 0.3		†	Shutoff solenoid	_	12
Tolerance hPa Shutoff solenoid	•	0.3		Ţ	Volt	:	12
Volt	:	12		+	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12		Ī	Rated speed rpm	:	2900
	·			+	Aneroid pressure	•	
OVERFLOW QUANTITY	'			†	hPa Del. quantity	:	1000
Kated speed rpm	:	750		Ţ	cm3/1000 strokes	:	1.5
Overflow quantity	,	<b></b> .		+	Tolërance		
ccm/10s Tolerance	:	63.8		1	cm3/1000 strokes Check tolerance	:	1.5
ccm/10s	;	22.2		Ţ	cm3/1000s.	:	1.5
				+	Shutoff solenoid		40
Check tolerance ccm/10s	•	22.2		1	Volt	:	12
Shutoff solenoid	•	_		+	KSB/AFB Volt	:	12
Yolt	:	12		†	Data dama ada uma	_	1100
KSB/AFB Volt	:	12		Ī	Rated speed rpm Aneroid pressure	:	1100
				+	hPa	:	350
Rated speed rpm Aneroid pressure	:	2300		†	LDA/		
hPa	:	1000		Ţ	HBA stroke mm	:	5.1
Overflow quantity				+	Del. quantity		
ccm/10s Tolerance	:	97.2		1	cm3/1000 strokes Tolerance	:	39.0
ccm/10s	:	41.6		1	cm3/1000 strokes	:	0.5
				+	Check tolerance		2.5
Check tolerance ccm/10s	:	41.6		Ţ	cm3/1000s. Shutoff solenoid	:	2.5
Shutoff solenoid	•			+	Volt	:	12
Volt	:	12		+	KSB/AFB Volt	_	12
KSB/AFB Volt	:	12		Ţ	KSB/AFB VOLE	٠	12
				+	Rated speed rpm	:	2300
DELIVERY AND BREA	KAWA	AY CHARACTER	1811C	1	Aneroid pressure hPa	•	1000
Rated speed rpm	:	2500		+	Del. quantity	-	
Aneroid pressure hPa		1000		+	cm3/1000 strokes Tolerance	:	40.5
Del. quantity	•	1000		Į	cm3/1000 strokes	:	1.0
cm3/1000 strokes	:	32.5		+	Check tolerance		
Tolerance cm3/1000 strokes	:	2.0		1	cm3/1000s. Shutoff solenoid	:	2.3
Check tolerance	•			+	Volt	:	12
cm3/1000S. Shutoff solenoid	:	5.0		+	KSB/AFB Volt		12
Volt	:	12		Į	NOB/APD VOLE	:	12
				+	Rated speed rpm	:	1100
KSB/AFB Volt	:	12		1	Del. quantity cm3/1000 strokes	:	31.5
Rated speed rpm	:	2700		+	Tolerance	•	
Aneroid pressure		1000		+	cm3/1000 strokes	:	1.5
hPa	:	1000		T			

			, _, , ,		
Check tolerance			+ Check tolerance		
cm3/1000s.	:	2.5	+ cm3/1000s.	:	1.5
Shutoff solenoid			+ Spread		
Volt	:	12	+ cm3/1000 strokes	:	5.0
			+		
KSB/AFB Volt	:	12	+ IDLE DELIVERY		
			†		
Rated speed rpm	:	750	+ Rated speed rpm	:	550
Aneroid pressure			+ Del. quantity		
hPa	:	1000	+ cm3/1000 strokes	:	1.5
Del. quantity			+ Tolerance		
cm3/1000 strokes	:	41.5	+ cm3/1000 strokes	:	1.5
Tolerance			+ Check tolerance		
cm3/1000 strokes	:	1.5	+ cm3/1000s.	:	1.5
Check tolerance			+ Shutoff solenoid		40
cm3/1000s.	:	2.5	+ Volt	:	12
Shutoff solenoid		40	†		40
Volt	:	12	+ KSB/AFB Volt	:	12
KDD (AED Valt		10	† Dotal analysms	_	/ 00
KSB/AFB Volt	:	12	+ Rated speed rpm	:	400
Oatad amand am		1500	Del. quantity		24 0
Rated speed rpm	:	1500	+ cm3/1000 strokes	:	21.0
Aneroid pressure hPa		1000	+ Tolerance + cm3/1000 strokes		2.5
Del. quantity	•	1000	+ Shutoff solenoid	•	2.5
cm3/1000 strokes		41.5	+ Volt		12
Tolerance	•	41.5	1 vocc	•	12
cm3/1000 strokes	:	0.5	KSB/AFB Volt	:	12
Check tolerance	•	0.5	I ROBIATE VOCE	•	12
cm3/1000s.	•	2.0	1		
Shutoff solenoid	•	_,,			
SHULULI SULEHUTU			+		
	:	12	‡		
Volt	:	12	‡		
	:	12	‡ 		
Volt	:	12	——————————————————————————————————————	CULA	ATION
	:	12	+		
Volt	: LE S	···········	+ Rated speed rpm		
Volt  ELECTR. SHUTOFF	: LE S	TOP	Rated speed rpm Aneroid pressure		1100
Volt  ELECTR. SHUTOFF	: LE S	···········	Rated speed rpm Aneroid pressure hPa		
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity	:	TOP 450	Rated speed rpm Aneroid pressure hPa Del. quantity	:	1100 1000
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	:	TOP 450	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:	1100 1000
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	TOP 450 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	1100 1000 20.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	TOP 450 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1100 1000 20.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	TOP 450 1.5 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1100 1000 20.0 1.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	TOP 450 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1100 1000 20.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: : :	TOP 450 1.5 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1100 1000 20.0 1.0 2.5
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : :	TOP 450 1.5 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1100 1000 20.0 1.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: : :	TOP 450 1.5 1.5 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: : :	TOP 450 1.5 1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1100 1000 20.0 1.0 2.5
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreæd cm3/1000 strokes KSB/AFB Volt	: : :	TOP 450 1.5 1.5 1.5 5.0	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: : :	TOP 450 1.5 1.5 1.5 5.0	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO	: : : : : NTROL	TOP  450  1.5  1.5  1.5  5.0  12  L LEVER	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION	: : : : : :	1100 1000 20.0 1.0 2.5 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreæd cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO	: : : : : NTROL	TOP  450  1.5  1.5  1.5  5.0  12  L LEVER	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION  Rated speed rpm	: : : : : :	1100 1000 20.0 1.0 2.5 12 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreæd cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO Rated speed rpm Del. quantity	: : : : : NTROL	TOP  450  1.5  1.5  1.5  5.0  12  L LEVER	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreæd cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO	: : : : : NTROL	TOP  450  1.5  1.5  5.0  12  LEVER  450	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt START TRANSITION  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreæd cm3/1000 strokes KSB/AFE Volt FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes	: : : : NTROL	TOP  450  1.5  1.5  5.0  12  LEVER  450	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : NTROL :	TOP  450  1.5  1.5  1.5  5.0  12  LEVER  450  1.5  1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12 12 600 24.0 10.0
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : NTROL :	TOP  450  1.5  1.5  1.5  5.0  12  LEVER  450  1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12 12
ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : NTROL :	TOP  450  1.5  1.5  1.5  5.0  12  LEVER  450  1.5  1.5	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1100 1000 20.0 1.0 2.5 12 12 600 24.0 10.0

KSB/AFB Volt : 12

Rated speed rpm 300

Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

KSB/AFB Volt 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 5.1

: 3,3 Dimension K mm

Tolerance mm : +-0,1 Dimension KF mm : 5,4

Tolerance mm

: +-0,2 Dimension MS mm : 1,4

Tolerance mm : +-0,2

# POTENTIOMETER

SET

1. measurement

: 1=3,32 V voltage Volt

**MICROSWITCH** 

SET

: 1=ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

: 37,2..39,2 position YA mm

Control lever

: 43,9..52,5 position YB mm

BOSCH	INJ.	PUMP	TEST	SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.02.95 Test oil : ISO 4113

Part no. : 0 460 484 068 Pump designation : VE4/8F2300R538

Customer-spec. information
Customer : FIAT-AUTO
Motor : M708 HT 17.L
Power KW : 53.0

# TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting mm : 4.1
Tolerance mm : 0.1
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting hPa Tolerance hPa Shutoff solenoid	:	5.5 0.3
Volt	:	12
KSB/AFB Volt	:	12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	1500
Aneroid pressure hPa	:	1000
Del. quantity		
cm3/1000 strokes Tolerance	:	41.5
cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	2.5
Check tolerance cm3/1000s.		2.5
Shutoff solenoid	•	2.5
Volt	:	12
KSB/AFB Volt	:	12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm	:	750
Del. quantity cm3/1000 strokes	:	28.5
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid Volt	:	12
Check tolerance cm3/1000s.	:	2.5
KSB/AFB Volt	:	12

Rated speed rpm	: 450	+ Aneroid pressure		
Del. quantity		+ hPa	: 1000	
cm3/1000 strokes	: 12.0	+		
Tolerance		∔ SV travel mm	: 1.4	
cm3/1000 strokes	: 2.0	+ Tolerance mm	: 0.3	
Shutoff solenoid		Check		
Volt	: 12	tolerance mm	: 0.6	
Spread	• 12	+ Shutoff solenoid	. 0.0	
cm3/1000 strokes	. 25		. 12	
	: 2.5	† Volt	: 12	
Check tolerance	2.5	†	40	
cm3/1000s.	: 2.5	+ KSB/AFB Volt	: 12	
		+		
KSB/AFB Volt	: 12	+ Rated speed rpm	: 400	
		+ Aneroid pressure		
		-	: 1000	
FULL-LOAD SPEED R	REGULATION	1		
		→ SV travel mm	: 1.5	
Rated speed rpm	: 2500	+ Tolerance mm	: 1.0	
Pressure hPa	: 1000	Check	. 1.0	
	. 1000		. 17	
Del. quantity	70.5	tolerance mm	: 1.3	
cm3/1000 strokes	: 30.5	+ Shutoff solenoid		
Tolerance		+ Volt	: 12	
cm3/1000 strokes	: 2.0	+		
Shutoff solenoid		+ Rated speed rpm	: 1100	
Volt	: 12	+ Aneroid pressure		
	, , _	+ hPa	: 1000	
KSB/AFB Volt	: 12	1	, , , ,	
ROB/AID VOCE	, ,,	+ SV travel mm	: 3.0	
CTARTING FUEL DEL	TVEDY	l l		
STARTING FUEL DEL	TAFKI	+ Tolerance mm	: 1.0	
	400	+ Check	4 7	
Rated speed rpm	: 100	+ tolerance mm	: 1.7	
Del. quantity		+ Shutoff solenoid		
cm3/1000 strokes	: 47.0	+ Volt	: 12	
Tolerance		+		
cm3/1000 strokes	: 12.0	+ Rated speed rpm	: 2300	
Shutoff solenoid		+ Aneroid pressure		
Volt	: 12	+ hPa	: 1000	
VOCC	. ,,,	1 "" 4	. 1000	
PCD/ATD Val+	. 12	T SV though mm	: 8.2	
KSB/AFB Volt	: 12	+ SV travel mm		
		+ Tolerance mm	: 0.3	
		+ Check		
		+ tolerance mm	: 0.6	
		+ Shutoff solenoid		
		——	: 12	
INJECTION-PUMP TE	ST SPECIFICATION	+		
		∔ KSB/AFB Volt	: 12	
TIMING DEVICE CHA	RACTERISTIC	1		
TITING DEVICE GIA	MACTENIZO (IO	SUPPLY PUMP PRESSI	HRE CHARACTE	OTTOTA:
Ostad assad ses	: 2000	JOHN THESS	ONE CHANACTE	.1(15/10
Rated speed rpm	: 2000	T Dotad anada mm	. 2700	
Aneroid pressure	4000	+ Rated speed rpm	: 2300	
hPa	: 1000	+ Aneroid pressure	4000	
Tolerance mm	: 0.3	+ hPa	: 1000	
Check		+ Supply comp		
tolerance mm	: 0.6	+ pressure bar	: 7.6	
Shutoff solenoid		+ Tolerance hPa	: 0.3	
Volt	: 12	+ Shutoff solenoid	•	
	• • •	+ Volt	: 12	
KSB/AFB Volt	: 12	1	- ''	
MODIALD VOLL	. 17	į		
	• • • •	T KCD/VED NVI+	• 10	
Dottod opend non		† KSB/AFB Volt	: 12	
Rated speed rpm	: 1000	+ KSB/AFB Volt +	: 12	

Rated speed rpm	:	1000		+	Del. quantity		
Aneroid pressure hPa	:	1000		‡	cm3/1000 strokes Check tolen: le	:	10.5
Supply pomp	·			+	cm3/1000s.	:	5.0
pressure bar Tolerance hPa	:	4.2 0.3		t	Shutoff solenoid Volt		12
Shutoff solenoid	•	0,5		Ţ	VOCC	•	1.0
Volt	:	12		+	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12		1	Rated speed rpm	:	2900
		. –		+	Aneroid pressure		
OVERFLOW QUANTITY				1	hPa Del. quantity	:	1000
Rated speed rpm	:	750		+	cm3/1000 strokes	:	1.5
Overflow quantity ccm/10s		63.8		†	Tolerance cm3/1000 strokes	:	1.5
Tolerance	•	03.0		Ţ	Check tolerance	•	1.5
ccm/10s	:	22.2		+	cm3/1000s.	:	1.5
Check tolerance				1	Shutoff solenoid Volt	:	12
ccm/10s	:	22.2		+		•	
Shutoff solenoid Volt		12		<u>†</u>	KSB/AFB Volt	:	12
VOCC	•			Ŧ	Rated speed rpm	:	1100
KSB/AFB Volt	:	12		+	Aneroid pressure		750
Rated speed rpm	:	2300		1	hPa	•	350
Aneroid pressure				+	LDA/		
hPa Overflow quantity	:	1000		1	HBA stroke mm Del. quantity	:	5.1
ccm/10s	:	97.2		+	cm3/1000 strokes	:	35.5
Tolerance ccm/10s		41.6		+	Tolerance cm3/1000 strokes	:	0.5
CCM/ TOS	٠	41.0		Ţ	Check tolerance	•	0.5
Check tolerance		(4.7		+	cm3/1000s.	:	2.5
ccm/10s Shutoff solenoid	:	41.6		1	Shutoff solenoid Volt	:	12
Volt	:	12		+		•	
KSB/AFB Volt		12		1	KSB/AFB Volt	:	12
	•			+	Rated speed rpm	:	2300
DELIVERY AND BREAK	<aw <="" td=""><td>AY CHARACTER</td><td>RISTIC</td><td>†</td><td>Aneroid pressure hPa</td><td></td><td>1000</td></aw>	AY CHARACTER	RISTIC	†	Aneroid pressure hPa		1000
Rated speed rpm	:	2500		Ŧ	Del. quantity	•	1000
Aneroid pressure		4000		t	cm3/1000 strokes	:	41.5
hPa Del. quantity	:	1000		1	Tolerance cm3/1000 strokes	:	1.0
cm3/1000 strokes	:	30.5		+	Check tolerance		
Tolerance cm3/1000 strokes	:	2.0		1	cm3/1000S. Shutoff solenoid	:	2.3
Check tolerance	•			+	Volt	:	12
cm3/1000s.	:	5.0		+	VCD/ACD Vol+		12
Shutoff solenoid Volt	:	12		Ī	KSB/AFB Volt	•	12
		40		+	Rated speed rpm	:	1100
KSB/AFB Volt	:	12		1	Del. quantity cm3/1000 strokes	:	30.5
Rated speed rpm	:	2700		+	Tolerance	-	
Aneroid pressure hPa		1000		İ	cm3/1000 strokes	:	1.5
HE	•	1000		T			

Check tolerance cm3/1000s.	: 2.5	+ Shutoff solenoid + Volt : 12
Shutoff solenoid Volt	: 12	+ KSB/AFB Volt : 12
KSB/AFB Volt	: 12	Rated speed rpm : 400  Del. quantity
Rated speed rpm Aneroid pressure	: 750	- cm3/1000 strokes : 23.0 - Tolerance
hPa Del. quantity	: 1000	cm3/1000 strokes : 2.5 Shutoff solenoid
cm3/1000 strokes Tolerance	: 40.5	Volt : 12
cm3/1000 strokes Check tolerance	: 1.5	KSB/AFB Volt : 12
cm3/1000S. Shutoff solenoid		+
Volt	: 12	+
KSB/AFB Volt	: 12	+ START TRANSITION
Aneroid pressure	: 1500	Rated speed rpm : 600
hPa Del. quantity cm3/1000 strokes	: 1000 : 41.5	+ Del. quantity + cm3/1000 strokes : 24.0 + Tolerance
Tolerance cm3/1000 strokes		- cm3/1000 strokes : 10.0 - Shutoff solenoid
Check tolerance cm3/1000s.	: 2.0	Volt : 12
Shutoff solenoid Volt	: 12	KSB/AFB Volt : 12
		+ Rated speed rpm : 300
ELECTR. SHUTOFF CONTROL LEVER, ID	NIE STOP	Del. quantity cm3/1000 strokes : 47.0 Tolerance
Rated speed rpm		+ cm3/1000 strokes : 10.0 + Shutoff solenoid
Del. quantity cm3/1000 strokes		Volt : 12
Tolerance cm3/1000 strokes		KSB/AFB Volt : 12
Check tolerance cm3/1000s.	: 1.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
Spread cm3/1000 strokes	: 5.0	+
KSB/AFB Volt	: 12	+ LDA/ + HBA stroke mm : 5.1 + Dimension K mm : 3,3
IDLE DELIVERY		Tolerance mm : +-0,1 Dimension KF mm : 5,4 Tolerance mm : +-0,2
Rated speed rpm Del. quantity		Dimension MS mm : 1,4 Tolerance mm : +-0,2
cm3/1000 strokes Tolerance		‡
cm3/1000 strokes Check tolerance		CONTROL LEVER POSITION
cm3/1000S.	: 1.5	+ SET

Control lever

position YA mm : 37,2..39,2

Control lever position YB mm : 43,9..52,5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.08.95 Test oil : ISO 4113

Part no. : 0 460 484 084 Pump designation : VE4/8F2300R538-1

Customer-spec. information
Customer : FIAT-AUTO
Motor : M708 NT 17.L
Power KW : 53.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting mm Tolerance mm Shutoff solenoid	:	4.4 0.1
Volt	:	12
KSB/AFB Volt	:	12

#### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting hPa Tolerance hPa Shutoff solenoid	:	5.8 0.3
Volt	:	12
KSB/AFB Volt	:	12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	1500
Aneroid pressure hPa	:	1000
Del. quantity cm3/1000 strokes	:	41.5
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	2.5
Check tolerance cm3/1000s.	٠	2.5
Shutoff solenoid Volt		12
	•	
KSB/AFB Volt	:	12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity	:	750
cm3/1000 strokes	:	31.5
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid Volt	:	12
Check tolerance cm3/1000s.	:	2.5
KSB/AFB Volt	:	12

Rated speed rpm	:	450	+	Aneroid pressure		1000
Del. quantity cm3/1000 strokes	:	10.0	Į	hPa	•	1000
Tolerance			+	SV travel mm	:	1.5
cm3/1000 strokes	:	2.0	+	Tolerance mm	:	0.3
Shutoff solenoid Volt		12	İ	Check tolerance mm	•	0.6
Spread	•	,,_	1	Shutoff solenoid	•	0.0
cm3/1000 strokes	:	2.5	+	Volt	:	12
Check tolerance cm3/1000s.		2.5	1	KSB/AFB Volt	:	12
(11137 10003.	•	2.5	Ţ	NOD/AFD VOLL	•	12
KSB/AFB Volt	:	12	+	Rated speed rpm	:	450
			†	Aneroid pressure hPa		1000
FULL-LOAD SPEED R	EGU	ILATION	I	IIFa	:	1000
			+	SV travel mm	:	1.5
Rated speed rpm	:	2500	+	Tolerance mm	:	1.0
Pressure hPa Del. quantity	:	1000	Ī	Check tolerance mm	:	1.3
cm3/1000 strokes	:	32.5	Ţ	Shutoff solenoid	•	1.5
Tolerance			+	Volt	:	12
cm3/1000 strokes Shutoff solenoid	:	2.0	†	Dated aread nom	:	1100
Volt	:	12	Ī	Rated speed rpm Aneroid pressure	•	1100
	•		+	hPa	:	1000
KSB/AFB Volt	:	12	+	OM turned and		7.0
STARTING FUEL DEL	TVE	:RY	Ī	SV travel mm Tolerance mm	•	3.0 1.0
OTANTING TOLL VEL			+	Check	•	1.0
Rated speed rpm	:	100	+	tolerance mm	:	1.7
Del. quantity cm3/1000 strokes		47.0	†	Shutoff solenoid Volt		12
Tolerance	•	47.0	Ţ	VOCC	•	12
cm3/1000 strokes	:	12.0	+	Rated speed rpm	:	2300
Shutoff solenoid Volt		12	†	Aneroid pressure hPa	•	1000
VOCE	•	12	I	iira	:	1000
KSB/AFB Volt	:	12	+	SV travel mm	:	7.8
			+	Tolerance mm	:	0.3
			1	Check tolerance mm	•	0.6
			+	Shutoff solenoid	•	
THIS STAN DIME TO	~ <del>~~</del>	CDECTETCATIONS	+	Volt	:	12
INJECTION-PUMP TE	21	SPECIFICATIONS	I	KSB/AFB Volt	:	12
TIMING DEVICE CHA	RAC	TERISTIC	+		-	
		2000	†	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
Rated speed rpm Aneroid pressure	:	2000	Ī	Rated speed rpm	:	2300
hPa	:	1000	1	Aneroid pressure	•	2300
Tolerance mm	:	0.3	+	hPa	:	1000
Check tolerance mm		0.6	İ	Supply pomp pressure bar	•	8.1
Shutoff solenoid	•	J.J	Ţ	Tolerance hPa	:	0.3
Volt	:	12	+	Shutoff solenoid		40
KSB/AFB Volt		12	1	Volt	:	12
NOUT AT D VOLL	•	16	Į	KSB/AFB Volt	:	12
Rated speed rpm	:	1000	+			

Rated speed rpm	:	1000	+	Del. quantity		40.5
Aneroid pressure hPa	•	1000	1	cm3/1000 strokes Check tolerance	:	12.5
Supply pomp	•		+	cm3/1000s.	:	5.0
pressure bar	:	4.2	+	Shutoff solenoid		40
Tolerance hPa Shutoff solenoid	:	0.3	†	Volt	:	12
Volt	:	12	Į	KSB/AFB Volt	:	12
			+			
KSB/AFB Volt	:	12	+	Rated speed rpm	:	2900
OVERFLOW QUANTITY	,		I	Aneroid pressure hPa	:	1000
			+	Del. quantity	·	
Rated speed rpm		750	+	cm3/1000 strokes	:	1.5
Overflow quantity ccm/10s		63.8	1	Tolerance cm3/1000 strokes	:	1.5
Tolerance	•	03.0	1	Check tolerance	•	1.5
ccm/10s	:	22.2	+	cm3/1000s.	:	1.5
Check tolerance			†	Shutoff solenoid Volt		12
ccm/10s	:	22.2	I	νοιι	٠	12
Shutoff solenoid			+	KSB/AFB Volt	:	12
Volt	:	12	+	Data dan and an a		4400
KSB/AFB Volt		12	İ	Rated speed rpm Aneroid pressure	:	1100
KODIAID VOCC	•	16	Ţ	hPa	:	350
Rated speed rpm	:	2300	+			
Aneroid pressure		1000	†	LDA/	:	5.1
<ul><li>hPa</li><li>Overflow quantity</li></ul>	,	1000	I	HBA stroke mm Del. quantity	•	٦.١
ccm/10s	:	97.2	+	cm3/1000 strokes	:	39.0
Tolerance		10.7	+	Tolerance		0.5
ccm/10s	:	41.6	Ī	cm3/1000 strokes Check tolerance	:	0.5
Check tolerance			+	cm3/1000s.	:	2.5
ccm/10s	:	41.6	+	Shutoff solenoid		40
Shutoff solenoid Volt		12	İ	Volt	:	12
VOCC	•	12	Ţ	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12	+			
DELIVERY AND BREA	V ALL	AV CHADACTEDICTIC	†	Rated speed rpm Aneroid pressure	:	2300
DELIVERY AND DREA	NAW/	MI CHARACIERISIIC	Į	hPa	:	1000
Rated speed rpm	:	2500	+	Del. quantity		
Aneroid pressure		1000	†	cm3/1000 strokes	:	40.5
hPa Del. quantity	i	1000	I	Tolerance cm3/1000 strokes	:	1.0
	:	32.5	+	Check tolerance	•	
Tolerance		2.0	+	cm3/1000s.	:	2.3
cm3/1000 strokes Check tolerance	:	2.0	1	Shutoff solenoid Volt		12
cm3/1000s.	:	5.0	Ţ	VOCC	•	
Shutoff solenoid			+	KSB/AFB Volt	:	12
Volt	:	12	†	Patad angod nam	:	1100
KSB/AFB Volt	:	12	I	Rated speed rpm Del. quantity	•	1100
			+	cm3/1000 strokes	:	31.5
Rated speed rpm	:	2700	†	Tolerance		1 5
Aneroid pressure hPa	:	1000	1	cm3/1000 strokes	:	1.5
.,, <b>u</b>	•	1000	,			

Chack tolarance			l at the			
Check tolerance			+ Check tolerance			
cm3/1000s.	:	2.5	+ cm3/1000s.	:	1.5	
Shutoff solenoid			+ Spread			
Volt	:	12	+ cm3/1000 strokes	:	5.0	
			1			
KSB/AFB Volt	:	12	↓ IDLE DELIVERY			
KOBIAID VOCC	•	1 6	TOCK DECIVER!			
<b>5 1 3 5 5 5 1 5 5 5</b>		750	T District and an		550	
Rated speed rpm	:	750	+ Rated speed rpm	:	55 <b>0</b>	
Aneroid pressure			+ Del. quantity			
hPa	:	1000	+ cm3/1000 strokes	:	1.5	
Del. quantity			→ Tolerance			
cm3/1000 strokes	•	41.5	+ cm3/1000 strokes	•	1.5	
Tolerance	•		+ Check tolerance	•	,,,,	
cm3/1000 strokes		1.5	+ cm3/1000s.		1.5	
	•	1.7		:	1.5	
Check tolerance			+ Shutoff solenoid			
cm3/1000s.	:	2.5	† Volt	:	12	
Shutoff solenoid			+			
Volt	:	12	∔ KSB/AFB Volt	:	12	
			+			
KSB/AFB Volt	:	12	Rated speed rpm	:	400	
1100//110	•		+ Del. quantity	•	100	
Data dancad nam	:	1500	cm3/1000 strokes		21.0	
	•	1300		•	21.0	
Aneroid pressure		4000	+ Tolerance			
hPa	:	1000	+ cm3/1000 strokes	:	2.5	
Del. quantity			+ Shutoff solenoid			
cm3/1000 strokes	:	41.5	∔ Volt	:	12	
Tolerance			+			
cm3/1000 strokes	:	0.5	∔ KSB/AFB Volt	:	12	
Check tolerance	•	0.5	1	•	, _	
	_	2.0	T			
cm3/1000s.	:	2.0	†			
Shutoff solenoid			†			
Volt	:	12	+			
			+			
			+			
		<del></del>	+ START TRANSITION			
ELECTR. SHUTOFF			_			
		rop	+ Rated speed rpm	:	/00	
	I E 97	OF.	Del. quantity		AD111	
CONTROL LEVER, ID	LE ST			•	600	
CONTROL LEVER, ID		/ 50				
CONTROL LEVER, ID Rated speed rpm	LE ST :	450	+ cm3/1000 strokes		24.0	
CONTROL LEVER, ID  Rated speed rpm Del. quantity	:		cm3/1000 strokes Tolerance	:	24.0	
CONTROL LEVER, ID Rated speed rpm	:	450 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes	:		
CONTROL LEVER, ID  Rated speed rpm Del. quantity	:		cm3/1000 strokes Tolerance	:	24.0	
CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	:	24.0 10.0	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:		cm3/1000 strokes Tolerance cm3/1000 strokes	:	24.0	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.5 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	:	24.0 10.0 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	:	24.0 10.0	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	:	1.5 1.5 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	:	24.0 10.0 12	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.5 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt	:	24.0 10.0 12 12	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	:	1.5 1.5 1.5 5.0	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm	:	24.0 10.0 12	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	:	1.5 1.5 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity	: : : : :	24.0 10.0 12 12 300	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	:	1.5 1.5 1.5 5.0	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm	: : : : :	24.0 10.0 12 12	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt	: : : : : : : : : : : : : : : : : : : :	1.5 1.5 1.5 5.0	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : :	24.0 10.0 12 12 300	
CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.5 1.5 1.5 5.0	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : :	24.0 10.0 12 12 300 47.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COR	: : : : : :	1.5 1.5 1.5 5.0 12 LEVER	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : :	24.0 10.0 12 12 300	
CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  KSB/AFB Volt  FULL-LOAD STOP COR	: : : : : :	1.5 1.5 1.5 5.0	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : :	24.0 10.0 12 12 300 47.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COR Rated speed rpm Del. quantity	: : : : : NTROL	1.5 1.5 1.5 5.0 12 LEVER	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : :	24.0 10.0 12 12 300 47.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : NTROL	1.5 1.5 1.5 5.0 12 LEVER	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : :	24.0 10.0 12 12 300 47.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COM Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER 450	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : :	24.0 10.0 12 12 300 47.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : :	24.0 10.0 12 12 300 47.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COM Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER 450	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : :	24.0 10.0 12 12 300 47.0 10.0	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COM Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER 450 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt	: : : : : : : : : : : : : : : : : : : :	24.0 10.0 12 12 300 47.0 10.0 12 12	S
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COM Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER 450	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	24.0 10.0 12 12 300 47.0 10.0 12 12	S
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes KSB/AFB Volt FULL-LOAD STOP COM Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread	: : : : : NTROL :	1.5 1.5 1.5 5.0 12 LEVER 450 1.5	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  KSB/AFB Volt	: : : : : : : : : : : : : : : : : : : :	24.0 10.0 12 12 300 47.0 10.0 12 12	S

LDA/

HBA stroke mm : 5.1
Dimension K mm : 3,3
Tolerance mm : +0,1
Dimension KF mm : 5,4
Tolerance mm Tolerance mm : +-0,2 Dimension MS mm : 1,4 Tolerance mm : +-0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 43,9..52,5

BOSCH INJ. PUMP T	EST SPECIFICATIONS
Note remarks	
Refer to Service adjustment instru See microcard(s)	ctions.
Edition Test oil	: 06.06.94 : ISO 4113
Part no. Pump designation	: 0 460 424 099 : VE4/12F1400R539
Customer-spec. in Customer Motor	formation : NISSAN-MISA : B 4.40 II
TEST BENCH REQUIRE	EMENTS
Overflow restriction mm	: 0.55
Inlet press. bar Tolerance bar	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 109
Opening pressure bar Tolerance bar	: 207 : 3
Test lines	: 1 680 750 000
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 840
REMARKS	
BEGINNING OF DELIV	/ERY
Start of delivery	blocking
Plunger stroke mm Outlet	: 0,3 : A
INJECTION PUMP SET	TING VALUES

TIMING DEVICE TRA	AVEL		
Rated speed rpm	:	1100	
Setting mm Tolerance mm Shutoff solenoid Volt	:	1.4 0.1 12	
SUPPLY PUMP PRESS	URE		
Rated speed rpm	:	1100	
Setting hPa Tolerance hPa Shutoff solenoid	:	7.2 0.3	
Volt	:	12	
FULL-LOAD DELIV.	WITH	HOUT BOOST PRE	ESSURE
Rated speed rpm Rated speed rpm	:	840 500	
Del. quantity cm3/1000 strokes	:	74.0	
Del. quantity cm3/1000 strokes	:	70.0	
Tolerance cm3/1000 strokes	:	0.5	
Tolerance cm3/1000 strokes	:	0.5	
Spread cm3/1000 strokes	:	5.0	
Spread cm3/1000 strokes	:	5.0	
Shutoff solenoid Volt	:	12	
Shutoff solenoid Volt	:	12	
Check tolerance cm3/1000s.	:	5.0	
IDLE SETTING			
	:	350	
Del. quantity cm3/1000 strokes	:	15.0	
Tolerance cm3/1000 strokes	:	2.0	
Shutoff solenoid Volt	:	12	
Spread cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s.	:	5.0	
FULL-LOAD SPEED R	EGUL	ATION	

Rated speed rpm : 1575

Del. quantity		F/ 0	† Batalana dan		1000
cm3/1000 strokes Tolerance	:	54.0	Rated speed rpm	:	1000
cm3/1000 strokes	•	2.0	Rated speed rpm	:	500
Shutoff solenoid	•	2.0	+ Supply pomp	•	300
Volt	:	12	+ pressure bar	:	4.8
			+ Tolerance hPa	:	0.3
STARTING FUEL DEL	.IVE	RY	+ Shutoff solenoid	ł	
		400	+ Volt	:	12
Rated speed rpm	:	100	+		
Del. quantity cm3/1000 strokes		125.0	OVERFLOW QUANTIT	Y	
Tolerance	•	123.0	Rated speed rpm	:	500
cm3/1000 strokes	•	30.0	Overflow quantit		200
Shutoff solenoid	•	30.0	+ ccm/10s	:	63.8
Volt	:	12	+ Tolerance	-	
			+ ccm/10s	:	22.2
			+		
			+ Check tolerance		<b>.</b> -
			+ ccm/10s	. :	22.2
TALLECTION DUMO TO		000000000000000000000000000000000000000	Shutoff solenoid	1	13
INJECTION-PUMP TE	:51	SHECTLICATIONS	† Volt	:	12
TIMING DEVICE CHA	RAC	TERISTIC	+ Rated speed rpm	•	1400
THITITO DEVICE CUM		I CHIO LIC	Overflow quantit		1-100
Rated speed rpm	:	1300	+ ccm/10s	:	97.2
water obeta tom	-		+ Tolerance	·	
SV travel mm	:	2.9	+ ccm/10s	:	41.6
Tolerance mm	:	0.3	+		
Check			+ Check tolerance		
tolerance mm	:	0.8	+ ccm/10s	:	41.6
Shutoff solenoid		12	+ Shutoff solenoid		12
Volt	•	12	† Volt	•	12
Rated speed rpm	:	1000	DELIVERY AND BRE	AK AW	AY CHARACTERISTI
Nacca opeca ipiii	•	1000	+	.,,	TI GIMMOTENTOTE
SV travel mm	:	0.7	Rated speed rpm	:	1575
Tolerance mm	:	0.3	+ Del. quantity		
Check			+ cm3/1000 strokes	:	54 <b>.0</b>
tolerance mm	:	8.0	+ Tolerance		
Shutoff solenoid		4.0	+ cm3/1000 strokes	:	2.0
Volt	:	12	+ Check tolerance	_	4 N
Dated speed spe		1400	+ cm3/1000s. + Shutoff solenoid	•	6.0
Rated speed rpm	:	1400	+ Volt	•	12
SV travel mm	:	3.4	1	•	
Tolerance mm	:	0.3	+ Rated speed rpm	:	1525
Check			+ Del. quantity		
tolerance mm	:	0.8	+ cm3/1000 strokes	:	70.0
Shutoff solenoid			+ Tolerance		
Volt	:	12	+ cm3/1000 strokes	:	10.0
ALIMAL 1/ BUILD BAR		01140407777777	+ Check tolerance	_	10.0
SUPPLY PUMP PRESS	UKE	CHARACTERISTIC	+ cm3/1000s.	:	10.0
Dated speed spe		1400	+ Shutoff solenoid + Volt		12
Rated speed rpm Supply pomp	:	1400	I	:	16
pressure bar	:	8.4	Rated speed rpm	:	1700
Tolerance hPa	:	0.3	+ Del. quantity	•	
Shutoff solenoid	•	<del></del>	cm3/1000 strokes	:	1.5
Volt	:	12	+		

Tolerance cm3/1000 strokes	:	1.5	‡	Check tolerance cm3/1000s.	:	1.5	
Check tolerance cm3/1000s.		1.5	1				
Shutoff solenoid	•	,.,	1	IDLE DELIVERY			
Volt	:	12	+			430	
Rated speed rpm	:	1400	Ŧ	Rated speed rpm Del. quantity			
Del. quantity cm3/1000 strokes	:	76.0	‡	cm3/1000 strokes Tolerance		1.5	
Tolerance cm3/1000 strokes	:	2.5	‡	cm3/1000 strokes Check tolerance	:	1.5	
Check tolerance cm3/1000S.	:	4.0	†	cm3/1000s. Shutoff solenoid	:	1.5	
Shutoff solenoid			+	Volt	:	12	
Volt	:	12	+				
Rated speed rpm Del. quantity	:	1000	<u> </u>				
cm3/1000 strokes Tolerance	:	75.5	1				
cm3/1000 strokes Check tolerance	:	2.5	f	START TRANSITION			
cm3/1000s.	:	4.0	<del>-</del>	Rated speed rpm	:	250	
Shutoff solenoid Volt	:	12	Ŧ	Del. quantity cm3/1000 strokes	:	70.0	
Rated speed rpm	:	500	‡	Tolerance cm3/1000 strokes	:	20.0	
Del. quantity cm3/1000 strokes	:	70.0	‡	Shutoff solenoid Volt	:	12	
Tolerance cm3/1000 strokes	:	0.5	‡				
Check tolerance cm3/1000s.	:	3.5	‡	Rated speed rpm Del. quantity	:	130	
Shutoff solenoid	_	12	+	cm3/1000 strokes	:	125.0	
Volt	:	12	Ŧ	Tolerance cm3/1000 strokes	:	30.0	
MECHANICAL SHUTOF	F		<del></del> ‡	Shutoff solenoid Volt	:	12	
Rated speed rpm	:	1400	Ŧ				
Del. quantity cm3/1000 strokes	:	1.5	‡	ASSEMBLY AND ADJU			
Tolerance cm3/1000 strokes	:	1.5	‡	Dimension K mm Tolerance mm	:	3,7 +-0,1	
Check tolerance cm3/1000s.	:	1.5	‡	Dimension KF mm Tolerance mm Dimension MS mm	:	6,4 +-0,2	
Shutoff solenoid Voit	:	12	‡	Dimension MS mm Tolerance mm	:	1,1 +-0,2	
		-		•		•	
ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	ТОР	‡	CONTROL LEVER POS	ITI	ON	
Rated speed rpm			<u> </u>	SET			
Del. quantity			+				
cm3/1000 strokes Tolerance			‡	Control lever position YA mm	:	37,239,2	
cm3/1000 strokes	:	1.5	<u> </u>				
			1				

Control lever position YB mm	: 52,760,4	

Rated speed rpm   1200			+			
Note remarks	BOSCH INJ. PUMP T	EST SPECIFICATIONS	Rated speed rpm	:	1200	
Refer to Service Info for test and adjustment instructions.	Note remarks		+ Aneroid pressure + hPa	:	1000	
adjustment instructions. See microcard(s) W4007   Tolerance mm : 0.1   See microcard(s) W4007   Tolerance mm : 0.1   Setition : 21.06.95   Test oil : ISO 4113   SuPPLY PUMP PRESSURE   Part no. : 0 460 414 120   Rated speed rpm : 1200   Aneroid pressure   hPa : 1000   Customer—spec. information   Customer : IVECO-SOFIM   Tolerance hPa : 0.3   Shutoff solenoid   Volt : 12   TEST BENCH REQUIREMENTS   FULL-LOAD DELIVERY WITH BOOST PRESSURI   Rated speed rpm : 1400   Aneroid pressure   hPa   1000   Tolerance Properties   1000   Tolerance P			+			
See microcard(s) W400/   Shutoff solennid   Volt   12			+ Setting mm	:	1.8	
Edition	adjustment instru	CTIONS.			0.7	
Edition	See microcard(s)	W4UU/		•	12	
Part no. : 0 460 414 120 Pump designation : VE4/11F1900R542-1  Customer—spec. information Customer : IVECO—SOFIM Motor : 8140.47.2200  TEST BENCH REQUIREMENTS  Calibrating—oil return temperature *C : 45 Tolerance *C : 1  Overflow restriction mm : 0.75  Inlet press, bar : 0.35 Inlet press, bar : 0.35 Tolerance bar : 0.05  Inlet pressure bar	Edition	: 21.06.95	1	•	, _	
Ameroid pressure had   1000	Test oil	: ISO 4113	SUPPLY PUMP PRESS	SURE		
Pump designation : VE4/11F1900R542-1	Part no.	: 0 460 414 120	+ Rated speed rom	•	1200	
Customer—spec. information Customer : IVECO-SOFIM Motor : 8140.47.2200  TEST BENCH REQUIREMENTS  Calibrating—oil return remperature *C : 45 Tolerance *C : 1  Overflow restriction mm : 0.75  Inlet press, bar : 0.35 Inlet press, bar : 0.35  Tolerance bar : 0.05  Tolerance bar : 250 Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 250 Copening pressure bar a : 250 Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 3  Test lines : 1 680 750 073  REMARKS  REMARKS  REMARKS  REMARKS  Setting hPa : 6.0  Tolerance hPa : 0.3  Tolerance hPa : 0.3  Rated speed rpm : 1400 Aneroid pressure hPa : 1000 Pel. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 0.5 Spread  Cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.5  Shutoff solenoid Volt : 12  FULL—LOAD DELIV. WITHOUT BOOST PRESSUR  Rated speed rpm : 550 Del. quantity cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	Pump designation	: VE4/11F1900R542-1	+ Aneroid pressure	•	1200	
Customer—spec. information Customer : IVECO—SOFIM Motor : 8140.47.2200  TEST BENCH REQUIREMENTS  Calibrating—oil return remark to the present of the present			+ hPa	:	1000	
Motor	Customer-spec in	formation	+			
Motor			Tolerance hPa	:	0.0	
Test bench requirements  Calibrating-oil return temperature °C : 45 Tolerance °C : 1  Overflow restriction mm : 0.75  Inlet press, bar : 0.35 Tolerance bar : 0.05  Opening pressure bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  REMARKS  TREMARKS  TREMARKS  TOUR TITLE LOAD DELIVERY WITH BOOST PRESSURING	Motor	· 8140 47 2200			0.5	
TEST BENCH REQUIREMENTS  Calibrating-oil return temperature °C : 45 Tolerance °C : 1  Overflow restriction mm : 0.75  Inlet press. bar : 0.35 Tolerance bar : 0.05  Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250 Tolerance bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  Outside diameter : 2.00 x length mm : 450  INJECTION PUMP SETTING VALUES  FULL-LOAD DELIVERY WITH BOOST PRESSURING Analogous PR	11000	. 01-10:-11:2200		:	12	
Calibrating-oil return temperature °C : 45 Tolerance °C : 1  Overflow restriction mm : 0.75  Inlet press. bar : 0.35 Tolerance bar : 0.05  Tolerance bar : 250 Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 3  Tolerance cm3/1000 strokes : 27.0  Tolerance cm3/1000 strokes : 0.5  Shutoff solenoid Volt : 12  Check tolerance cm3/1000s: 4.5  Shutoff solenoid volt : 12  Tolerance cm3/1000s: 4.5  Tolerance cm3/1000s: 4.5  Tolerance cm3/1000s: 4.5  IDLE SETTING  Rated speed rpm : 325  Del. quantity cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 2.0  Shutoff solenoid volt : 12  INJECTION PUMP SETTING VALUES			+	•		
return temperature °C : 45 Tolerance °C : 1  Overflow restriction mm : 0.75  Inlet press. bar : 0.35 Tolerance bar : 0.05  Tolerance bar : 250 Tolerance bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  Test lines : 1 680 750 073  X inside diameter : 2.00 X inside diameter : 2.00 X length mm : 450  INJECTION PUMP SETTING VALUES  Avairus desired in the second of the secon	TEST BENCH REQUIR	EMENTS	† FULL-LOAD DELIVER	RY WI	TH BOOST F	PRESSURE
temperature °C : 45 Tolerance °C : 1 Tolerance °C : 1  Overflow restriction mm : 0.75  Inlet press. bar : 0.35 Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Tolerance bar : 0.05  Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  Test lines : 1 680 750 073  Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000 strokes : 0.5  Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000s : 4.5  Tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	Calibrating-oil				1400	
Tolerance *C : 1  Overflow						
Overflow restriction mm : 0.75  Inlet press, bar : 0.35  Inlet press, bar : 0.05  Inlet press, bar : 0.05  Inlet press, bar : 0.05  Inlet press, bar : 0.05  Inlet press, bar : 0.05  Inlet press, bar : 0.05  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.35  Inlet press, bar : 0.5  In	temperature °C	: 45		:	1000	
Overflow restriction mm         : 0.75         Tolerance cm3/1000 strokes : 0.5 spread cm3/1000 strokes : 4.0 cm3/1000 strokes : 4.0 cm3/1000 strokes : 4.0 check tolerance cm3/1000s. : 4.5 shutoff solenoid volt : 12           Test nozzle holde assembly : 1 688 901 027         FULL-LOAD DELIV. WITHOUT BOOST PRESSUR Del. quantity cm3/1000 strokes : 27.0 Tolerance bar : 3 cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : 0.5 shutoff solenoid volt : 12 check tolerance cm3/1000s. : 4.5           Test lines : 1 680 750 073         Shutoff solenoid volt : 12 check tolerance cm3/1000s. : 4.5           X inside diameter : 2.00 x length mm : 450         IDLE SETTING           REMARKS         Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 2.0 shutoff solenoid volt : 12 check tolerance cm3/1000 strokes : 2.0 shutoff solenoid volt : 12 spread           INJECTION PUMP SETTING VALUES         INJECTION PUMP SETTING VALUES	Tolerance °C	: 1			F 5	
restriction mm : 0.75	<b>.</b>			:	56.0	
Spread		0.75			0.5	
Cm3/1000 strokes : 4.0	restriction mm	: 0.75	1	:	0.5	
The continue of the continue					/. O	
Tolerance bar : 0.05  Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250  Tolerance bar : 3  Tolerance bar : 250  Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 3  Tolerance bar : 1 680 750 073  Tolerance cm3/1000 strokes : 27.0  Tolerance cm3/1000 strokes : 0.5  Shutoff solenoid Volt : 12  Outside diameter : 6.00  Injection Pump Setting VALUES  Tolerance cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 2.0  Shutoff solenoid Volt : 12  Tolerance cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 2.0  Shutoff solenoid Volt : 12  Tolerance cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 2.0  Shutoff solenoid Volt : 12  Spread	Inlet proce har	· 0 35		•	4.0	
Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250  Tolerance bar : 3  Test lines : 1 680 750 073  Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  REMARKS  Shutoff solenoid Volt : 12  FULL-LOAD DELIV. WITHOUT BOOST PRESSUR  Rated speed rpm : 550  Del. quantity cm3/1000 strokes : 27.0  Tolerance cm3/1000 strokes : 0.5  Shutoff solenoid Volt : 12  Check tolerance cm3/1000s. : 4.5  Rated speed rpm : 325  Del. quantity cm3/1000 strokes : 17.0  Tolerance cm3/1000 strokes : 2.0  Shutoff solenoid Volt : 12  Check tolerance cm3/1000s : 4.5  IDLE SETTING	Tolerance har	· 0.35		•	4.5	
Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  REMARKS  REMARKS  Test nozzle holde assembly : 1 688 901 027  FULL-LOAD DELIV. WITHOUT BOOST PRESSUR  Rated speed rpm : 550 Del. quantity cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5  IDLE SETTING  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	TO CCT WITH CONTRACT	. 0.03			,,,	
Test nozzle holde assembly : 1 688 901 027  Opening pressure bar : 250  Tolerance bar : 3				:	12	
Opening pressure bar : 250 Tolerance bar : 3  Test lines : 1 680 750 073  Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  Rated speed rpm : 550  bel. quantity cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5  IDLE SETTING  Rated speed rpm : 325  bel. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	Test nozzle holde		+			
Del. quantity cm3/1000 strokes : 27.0 Tolerance bar : 3  Test lines : 1 680 750 073  Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  REMARKS  REMARKS  REMARKS  Del. quantity cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5  IDLE SETTING  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	assembly	: 1 688 901 027	+ FULL-LOAD DELIV.	WITH	OUT BOOST	PRESSURE
Del. quantity  cm3/1000 strokes : 27.0  Tolerance bar : 3  Tolerance  cm3/1000 strokes : 0.5  Tolerance  cm3/1000 strokes : 0.5  Shutoff solenoid  Volt : 12  Check tolerance  cm3/1000s. : 4.5   x inside diameter : 2.00  x length mm : 450  Remarks			+ Batadanadana	_	550	
Tolerance bar : 3	_	• 250		÷	22 <b>U</b>	
Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5  x inside diameter : 2.00 x length mm : 450  REMARKS  REMARKS  REMARKS  Tolerance cm3/1000s. : 4.5  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread		· 7		•	27 N	
Cm3/1000 strokes : 0.5   Shutoff solenoid   Volt : 12   Check tolerance   Cm3/1000s. : 4.5   Cm3/1000s. : 4.5   Check tolerance   Cm3/1000s. : 4.5   Cm3/1000s.   Cm3/1000s. : 4.5   Cm3/1000s. : 4.5   Cm3/1000s.   Cm3/100s.   Cm3/1000s.   Cm3/1000s.   Cm3/100s.   Cm3/100s.   C	ioreigne pai.	. ,		•	21.0	
Test lines : 1 680 750 073  Shutoff solenoid Volt : 12 Check tolerance cm3/1000s. : 4.5  x inside diameter : 2.00 x length mm : 450  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread				:	0.5	
Outside diameter : 6.00  x inside diameter : 2.00 x length mm : 450  REMARKS  REMARKS  REMARKS  REMARKS  REMARKS  REMARKS  REMARKS  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	Test lines	: 1 680 750 073		-	- • •	
x inside diameter: 2.00 x length mm : 450  Remarks  Remar		· <del>-</del>		:	12	
x inside diameter: 2.00 x length mm : 450  Remarks  Remarks  Remarks  Remarks  Remarks  Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12 Spread	Outside diameter	: 6.00	+ Check tolerance			
x length mm : 450  Rated speed rpm : 325  Del. quantity  cm3/1000 strokes : 17.0  Tolerance  cm3/1000 strokes : 2.0  Shutoff solenoid  Volt : 12  Spread			+ cm3/1000s.	:	4.5	
Rated speed rpm : 325  Del. quantity  cm3/1000 strokes : 17.0  Tolerance  cm3/1000 strokes : 2.0  Shutoff solenoid  Volt : 12  Spread			†			
REMARKS  Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid INJECTION PUMP SETTING VALUES Volt : 12 Spread	x length mm	: 450	† IDLE SETTING			
REMARKS  Del. quantity cm3/1000 strokes : 17.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid INJECTION PUMP SETTING VALUES Volt : 12 Spread			T Rated speed rom	•	325	
cm3/1000 strokes : 17.0  Tolerance  cm3/1000 strokes : 2.0  cm3/1000 strokes : 2.0  Shutoff solenoid  Volt : 12  Spread	REMARKS			•		
Tolerance				:	17.0	
					- <del>-</del>	
INJECTION PUMP SETTING VALUES + Volt : 12 + Spread			+ cm3/1000 strokes	:	2.0	
+ Spread						
1	INJECTION PUMP SET	TTING VALUES	T .	:	12	
TIMING DEVICE TRAVEL						
THE DEVICE TRAVEL	TIMING DEVICE TRAN	/EL	+ cm3/1000 strokes	:	6.0	

Check tolerance cm3/1000s.  FULL-LOAD SPEED F	: 6.5	Tolerance cm3/1000 surokes Shutoff solenoid Volt	: 0.1 : 12
Rated speed rpm Pressure hPa	: 2100 : 1000	INJECTION-PUMP TES	T SPECIFICATIONS
Del. quantity cm3/1000 strokes		TIMING DEVICE CHAR	ACTERISTIC
Tolerance cm3/1000 strokes		Rated speed rpm Aneroid pressure	: 1600
Shutoff solenoid Volt		hPa	: 1000
		+ SV travel mm	4.3
STARTING FUEL DEL	-	† Tolerance mm † Check	0.4
Rated speed rpm Del. quantity	: 100	tolerance mm Shutoff solenoid	: 0.7
cm3/1000 strokes Tolerance	: 65.0	+ Volt	: 12
cm3/1000 strokes Shutoff solenoid	: 25.0	Rated speed rpm Aneroid pressure	1100
Volt	: 12		1000
		+ Tolerance mm	1.1
LOAD-DEPENDENT ST SETTING	TART OF DELIVERY	+ Check + tolerance mm + Shutoff solenoid	0.7
DELIVERY DIFFEREN	ICE		12
Rated speed rpm Pressure hPa	: 1400 : 1000	Rated speed rpm : Aneroid pressure	1900
Del. quantity cm3/1000 strokes	: -26.0	hPa :	1000
Tolerance		+ SV travel mm :	4.9
cm3/1000 strokes Shutoff solenoid	: 1.0	+ Tolerance mm : + Check	0.4
Volt	: 12	tolerance mm : Shutoff solenoid	0.7
PRESSURE DIFFEREN	ICE	Volt :	12
Rated speed rpm Aneroid pressure	: 1400	SUPPLY PUMP PRESSUF	RE CHARACTERISTIC
hPa Del. quantity	: 1000	Rated speed rpm : Aneroid pressure	1900
cm3/1000 strokes Tolerance	: -0.2	+ hPa : - Supply pomp	1000
cm3/1000 strokes Shutoff solenoid	: 0.1	pressure bar Tolerance hPa	8.5 0.3
Volt	: 12	Shutoff solenoid Volt	12
TIMING-DEVICE TRA	VEL DIFFERENCE	Rated speed rpm :	
Rated speed rpm	: 1400	+ Aneroid pressure + hPa :	1000
Aneroid pressure hPa	: 1000	+ Supply pomp	
Del. quantity cm3/1000 strokes	: -0.8	+ pressure bar : + Tolerance hPa :	4.1 0.3

Shutoff solenoid				+	Tolerance		
Volt	:	12		+	cm3/1000 strokes	:	1.5
				+	Check tolerance		
OVERFLOW QUANTITY				+	cm3/1000s.	:	1.5
		4000		†	Shutoff solenoid		
Rated speed rpm	:	1900		+	Volt	:	12
Aneroid pressure		4000		†	5		700
hPa	:	1000		†	Rated speed rpm	:	700
Overflow quantity ccm/10s		138.8		†	Aneroid pressure hPa		400
Tolerance	•	130.0		Ť	nra	•	400
ccm/10s		41.6		Ι	LDA/		
CCIII/ 103	•	71.0		I	HBA stroke mm	:	6.2
Check tolerance				1	Del. quantity	•	0.2
ccm/10s	:	41.6		1	cm3/1000 strokes	:	44.0
Shutoff solenoid	•			1	Tolerance	•	
Volt	:	12		1	cm3/1000 strokes	:	0.5
		_		+	Check tolerance	•	
Rated speed rpm	:	700		+	cm3/1000s.	:	4.0
Aneroid pressure				+	Shutoff solenoid		
hPa	:	1000		+	Volt	:	12
Overflow quantity				+			
ccm/10s	:	111.1		+	Rated speed rpm	:	1900
Tolerance				+	Aneroid pressure		
ccm/10s	:	22.2		+	hPa	:	1000
				+	Del. quantity		
Check tolerance		22.2		†		:	58.5
ccm/10s	:	22.2		†	Tolerance		2.5
Shutoff solenoid	_	10		†	cm3/1000 strokes	:	2.5
Volt	:	12		†	Check tolerance cm3/1000s.		3.5
DELIVERY AND BREA	VALI	V CHADACTE	DICTIC	T	Shutoff solenoid	•	3.5
DELIVERY AND BREA	N/W/	I CHARACTE	KISTIC	Ι	Volt		12
Rated speed rpm	:	2100		I	VOCC	•	16
Aneroid pressure	•	2100		1	Rated speed rpm	:	1200
hPa	:	1000		1	Aneroid pressure	•	1200
Del. quantity	•			1	hPa	:	1000
cm3/1000 strokes	:	37.0		+	Del. quantity		
Tolerance				1	cm3/1000 strokes	:	56.0
cm3/1000 strokes	:	3.0		+	Tolerance		
Check tolerance				+	cm3/1000 strokes	:	2.5
cm3/1000s.	:	4.5		+	Check tolerance		
Shutoff solenoid				+	cm3/1000s.	:	4.0
Volt	:	12		+	Shutoff solenoid		40
		2200		†	Volt	:	12
Rated speed rpm	:	2200		†	Data dan sa da sa sa		4750
Aneroid pressure		1000		†	Rated speed rpm	:	1750
hPa	:	1000		†	Aneroid pressure hPa		1000
Del. quantity cm3/1000 strokes	:	16.0		Ι	Del. quantity	•	1000
Check tolerance	•	10.0		Ι	cm3/1000 strokes	:	58.0
cm3/1000s.		6.0		I	Tolerance	•	٥.٥٠
Shutoff solenoid	•	<b>0.</b> 0		1	cm3/1000 strokes	:	2.5
Volt	:	12		1	Check tolerance	•	_,,
, , , ,	•			+	cm3/1000s.	:	3.5
Rated speed rpm	:	2280		+	Shutoff solenoid		
Aneroid pressure				+	Volt	:	12
hPa	:	1000		+			
Del. quantity		<u>.</u> .		+	Rated speer rpm	:	700
cm3/1000 strokes	:	1.5		+			

Aneroid pressure	: 1000	+		
Del. quantity		Ţ	CHECKING LOAD-DEP	
cm3/1000 strokes Tolerance	: 57.0	1	START OF DELIVERY	,
cm3/1000 strokes Check tolerance	: 4.5	+	DELIVERY DIFFEREN	ICE
cm3/1000s.	: 5.5	Ŧ	Rated speed rpm	: 1400
Shutoff solenoid Volt	: 12	‡	Aneroid pressure hPa	: 1000
Rated speed rpm	: 1400	+	Del. quantity cm3/1000 strokes	: -28.0
Aneroid pressure hPa	: 1000	‡	Tolerance cm3/1000 strokes	: 3.0
Del. quantity cm3/1000 strokes	: 56.0	+	Check tolerance cm3/1000s.	: 4.0
Tolerance cm3/1000 strokes	: 0.5	‡	Shutoff solenoid Volt	: 12
Check tolerance cm3/1000s.		1	TIMING-DEVICE TRA	
Shutoff solenoid Volt	: 12	+	Rated speed rpm	: 1400
VOCC	. 12	Ŧ	Aneroid pressure	
		<del></del> ‡	hPa Del. quantity	: 1000
ELECTR. SHUTOFF CONTROL LEVER, ID	LE STOP	‡	cm3/1000 strokes Tolerance	
Rated speed rpm	: 325	‡	cm3/1000 strokes Check tolerance	
Del. quantity cm3/1000 strokes	: 1.5	‡	cm3/1000s. Shutoff solenoid	: 0.1
Tolerance cm3/1000 strokes		1	Volt	: 12
Check tolerance cm3/1000s.		+	DELIVERY DIFFEREN	CE
		Ŧ	Rated speed rpm	: 1400
FULL-LOAD STOP CO		‡	Aneroid pressure hPa	: 1000
Rated speed rpm Del. quantity	: 325	‡	Del. quantity cm3/1000 strokes	: 1.5
cm3/1000 strokes Tolerance	: 1.5	‡	Tolerance cm3/1000 strokes	: 1.5
cm3/1000 strokes Check tolerance	: 1.5	‡	Check tolerance cm3/1000s.	: 1.5
cm3/1000s.	: 1.5	‡	Shutoff solenoid Volt	: 12
IDLE DELIVERY		1	TIMING-DEVICE TRA	
Rated speed rpm	: 450	+	Rated speed rpm	
Del. quantity cm3/1000 strokes	: 1.5	Ŧ	Aneroid pressure	
Tolerance cm3/1000 strokes	: 1.5	‡	hPa Tolerance mm	: 1000 : 0.2
Check tolerance cm3/1000S.	: 1.5	‡	Check tolerance mm	: 0.4
Shutoff solenoid Volt	: 12	‡	Shutoff solenoid Volt	: 12
		‡		
		+	START TRANSITION	

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes : 8.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 200

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : 25.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.2

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
MS1 dimension mm : 1,7

Tolerance mm : +0,15/-0,1

KSB travel mm : 5,7

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 33,0..35,0

Control lever

position YB mm : 48,9..54,9

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.07.95 Test oil : ISO 4113

Part no. : 0 460 414 128 Pump designation : VE4/11F1900R542-2

Customer-spec. information

Customer : IVECO-SOFIM
Motor : 8140.47.2200
Power KW : 83.0

#### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1200 Aneroid pressure

hPa : 1000

Setting mm : 1.8
Tolerance mm : 0.1
Shutoff solenoid

Volt : 12

### SUPPLY PUMP PRESSURE

Rated speed rpm : 1200

Aneroid pressure

hPa : 1000

Setting hPa : 6.0 Tolerance hPa : 0.3 Shutoff solenoid

Shutott solenoia

Volt : 12

### FULL-LOAD DELIVERY WITH BOOST PRESSURE

1000

Rated speed rpm : 1400 Aneroid pressure

hPa :

Del. quantity cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 4.5

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 27.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 12

Check tolerance

cm3/1000s. : 4.5

#### IDLE SETTING

Rated speed rpm : 325 Del. quantity

cm3/1000 strokes : 17.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

Cm		1 6 1		
Spread cm3/1000 strokes	: 6.0	+ cm3/	quantity 1000 strokes :	-0.8
Check tolerance cm3/1000s.	: 6.5	+ cm3/	erance 1000 strokes : coff solenoid	0.1
FULL-LOAD SPEED RE	EGIII ATTON	+ Volt		12
TOLL LOAD SPEED NE	TOCK! TOW	I		
Rated speed rpm Pressure hPa	: 2100 : 1000	+	CTION-PUMP TEST	
Del. quantity cm3/1000 strokes	: 37.0	† TIMI	NG DEVICE CHARAC	CTERISTIC
Tolerance cm3/1000 strokes	: 3.0		ed speed rpm :	1600
Shutoff solenoid	: 12	+ hPa	:	1000
Volt	12	I sv +	ravel mm :	4.3
STARTING FUEL DELI	VERY		rance mm :	0.4
	: 100	+ tole	rance mm :	0.7
Del. quantity cm3/1000 strokes	: 65.0	+ Snut + Volt	off solenoid :	12
Tolerance cm3/1000 strokes	: 25.0		d speed rpm :	1100
Shutoff solenoid Volt	: 12	+ Aner + hPa	oid pressure :	1000
1000		+		
			ravel mm :	1.1
LOAD-DEPENDENT STA	ART OF DELIVERY	+ Chec	k	0.4
SETTING			rance mm : off solenoid	0.7
DELIVERY DIFFERENC	E	Volt		12
	: 1400		d speed rpm :	1900
Del. quantity	: 1000	+ Aner	oid pressure :	1000
cm3/1000 strokes Tolerance	: -26.0	+ + SV t	ravel mm :	4.9
cm3/1000 strokes Shutoff solenoid	: 1.0		rance mm :	0.4
Volt	: 12	+ tole	rance mm :	0.7
PRESSURE DIFFERENC	E	+ Shute	off solenoid :	12
		+		
Rated speed rpm Aneroid pressure	: 1400	+ SUPPI +	LY PUMP PRESSURE	CHARACTERISTIC
hPa Del. quantity	: 1000		d speed rpm : oid pressure	1900
cm3/1000 strokes Tolerance	: -0.2	+ hPa	ty pomp	1000
cm3/1000 strokes	: 0.1	+ pres	sure bar :	8.5
Shutoff solenoid Volt	: 12	+ Shute	rance hPa : off solenoid	0.3
TIMING-DEVICE TRAV	EL DIFFERENCE	† Volt	:	12
	: 1400		d speed rpm : oid pressure	700
Aneroid pressure		hPa	·	1000
hPa	: 1000	+		

Supply pomp pressure bar Tolerance hPa	:	4.1 0.3		†	Aneroid pressure hPa Del. quantity	:	1000
Shutoff solenoid	•			Ŧ	cm3/1000 strokes	:	1.5
Volt	:	12		<del> </del> 	Tolerance cm3/1000 strokes	:	1.5
OVERFLOW QUANTITY				‡	Check tolerance cm3/1000s.	:	1.5
Rated speed rpm Aneroid pressure	:	1900		1	Shutoff solenoid Volt	•	12
hPa	:	1000		+		•	
Overflow quantity ccm/10s	:	138.8		+	Rated speed rpm Aneroid pressure	:	700
Tolerance ccm/10s	:	41.6		‡	hPa	:	400
Check tolerance				<u>†</u>	LDA/ HBA stroke mm	:	6.2
ccm/10s	:	41.6		<del> </del>	Del. quantity	•	
Shutoff solenoid Volt	:	12		Ť	cm3/1000 strokes Tolerance	:	44.0
Rated speed rpm	:	700		‡	cm3/1000 strokes Check tolerance	:	0.5
Aneroid pressure		1000		+	cm3/1000s. Shutoff solenoid	:	4.0
hPa Overflow quantity	•			Ŧ	Volt	:	12
ccm/10s Tolerance	:	111.1		‡	Rated speed rpm	:	1900
ccm/10s	:	22.2		Ì	Aneroid pressure hPa		1000
Check tolerance		22.2		+	Del. quantity	•	
ccm/10s Shutoff solenoid	:	22.2	•	‡	cm3/1000 strokes Tolerance	:	57.0
Volt	:	12		‡	cm3/1000 strokes Check tolerance	:	2.5
DELIVERY AND BREA	KAWA	Y CHARACTERIS	STIC .	+	cm3/1000s.	:	3.5
Rated speed rpm	:	2100		Ŧ	Shutoff solenoid Volt	:	12
Aneroid pressure hPa	:	1000	-	‡	Rated speed rpm	:	1200
Del. quantity cm3/1000 strokes		37.0		<u> </u>	Aneroid pressure hPa		1000
Tolerance	•		-	+	Del. quantity	•	
cm3/1000 strokes Check tolerance	:	3.0	-	‡	Tolerance	:	55.0
cm3/1000S. Shutoff solenoid	:	4.5	-	ţ	cm3/1000 strokes Check tolerance	:	2.5
Volt	:	12	-	Ì	cm3/1000s. Shutoff solenoid	:	4.0
Rated speed rpm	:	2200	-	1	Volt	:	12
Aneroid pressure hPa	:	1000	-	F	Rated speed rpm	:	1750
Del. quantity cm3/1000 strokes	:	18.0	-	‡	Aneroid pressure hPa	:	1000
Check tolerance cm3/1000s.	:	6.0	-	<u> </u>	Del. quantity cm3/1000 strokes	:	58.0
Shutoff solenoid Volt	•	12	-	t	Tolerance cm3/1000 strokes	:	2.5
	•		7	+	Check tolerance		
Rated speed rpm	:	2280	7	F	cm3/1000s.	•	3.5

Shutoff solenoid Volt	: 12	+ Shutoff solenoid + Volt : 12
Rated speed rpm Aneroid pressure		<u> </u>
hPa Del. quantity	: 1000	<u> </u>
cm3/1000 strokes Tolerance	: 57.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
cm3/1000 strokes Check tolerance	: 4.5	DELIVERY DIFFERENCE
cm3/1000s. Shutoff solenoid	: 5.5	Rated speed rpm : 1400
Volt	: 12	Aneroid pressure hPa : 1000
Rated speed rpm Aneroid pressure		Del. quantity cm3/1000 strokes : -28.0
hPa Del. quantity	: 1000	Tolerance : 3.0
cm3/1000 strokes Tolerance		+ Check tolerance + cm3/1000s. : 4.0
cm3/1000 strokes Check tolerance		+ Shutoff solenoid + Volt : 12
cm3/1000S. Shutoff solenoid	: 3.5	+ + TIMING-DEVICE TRAVEL DIFFERENCE
Volt	: 12	Rated speed rpm : 1400
EL FOTO OUNTOES		+ Aneroid pressure + hPa : 1000
ELECTR. SHUTOFF CONTROL LEVER, ID	DLE STOP	+ Del. quantity + cm3/1000 strokes : -0.8 + Tolerance
Rated speed rpm Del. quantity	: 325	+ cm3/1000 strokes : 0.1 + Check tolerance
cm3/1000 strokes Tolerance	: 1.5	+ cm3/1000s. : 0.1 + Shutoff solenoid
cm3/1000 strokes Check tolerance	: 1.5	Volt : 12
cm3/1000s.	: 1.5	DELIVERY DIFFERENCE
FULL-LOAD STOP CO	NTROL LEVER	Rated speed rpm : 1400 Aneroid pressure
Rated speed rpm Del. quantity	: 325	hPa : 1000 + Del. quantity
cm3/1000 strokes Tolerance		cm3/1000 strokes : 1.5 Tolerance
cm3/1000 strokes Check tolerance		cm3/1000 strokes : 1.5 Check tolerance
cm3/1000s.	: 1.5	cm3/1000s. : 1.5 Shutoff solenoid
IDLE DELIVERY	450	Volt : 12
Rated speed rpm Del. quantity	: 450	TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 strokes Tolerance		Rated speed rpm : 1400  Aneroid pressure
cm3/1000 strokes Check tolerance		+ hPa : 1000 + Tolerance mm : 0.2
cm3/1000s.	: 1.5	+ Check + tolerance mm : 0.4

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes : 8.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 200

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : 25.0

Shutoff solenoid

Volt : 12

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 6.2

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
MS1 dimension mm : 1,6

Tolerance mm : +0,15/-0,1

KSB travel mm : 5,7

CONTROL LEVER POSITION SET

Control lever

position YA mm : 33,0..35,0

Control lever

position YB mm : 48,9..54,9

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.02.95 Test oil : ISO 4113

Part no. : 0 460 494 400 Pump designation : VE4/9F2100R547-1

Customer-spec. information
Customer : FIAT-AUTO
Motor : M 721 CT 19.S
Power KW : 60.0

#### TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting mm : 6.0
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

# SUPPLY PUMP PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000
Setting hPa : 6.1
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12
KSB/AFB Volt : 12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

1500 Rated speed rpm Aneroid pressure 1000 Del. quantity cm3/1000 strokes : 46.0 Tolerance cm3/1000 strokes : 0.5Spread 2.5 cm3/1000 strokes : Check tolerance cm3/1000s.2.5 Shutoff solenoid Volt 12 KSB/AFB Volt 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 600 Del. quantity cm3/1000 strokes : 41.5 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid 12 Volt Check tolerance 2.5 cm3/1000s. KSB/AFB Volt 12

HOUSING-FIXED IDL		+	Del. quantity cm3/1000 strokes	:	-0.2
RESIDUAL QUANTITY		+	Tolerance cm3/1000 strokes	:	0.1
Rated speed rpm Del. quantity cm3/1000 strokes			Shutoff solenoid Volt	:	12
Tolerance cm3/1000 strokes		Ŧ	KSB/AFB Volt	:	12
Shutoff solenoid Volt	: 12	+	TIMING-DEVICE TRA	VEL	DIFFERENCE
KSB/AFB Volt	: 12		Rated speed rpm Del. quantity	:	1500
FULL-LOAD SPEED R	REGULATION	+	cm3/1000 strokes Tolerance		-0.9
Rated speed rpm	: 2300		cm3/1000 strokes Shutoff solenoid	:	0.1
Pressure hPa Del. quantity	: 1000		Volt	:	12
cm3/1000 strokes Tolerance	: 34.0	+ 1	KSB/AFB Volt	:	12
cm3/1000 strokes Shutoff solenoid		+ :	INJECTION-PUMP TE	ST S	SPECIFICATIONS
Volt	: 12	+ .	TIMING DELIZOE CLA		
KSB/AFB Volt	: 12	1	TIMING DEVICE CHA	RAU	IERISIIL
STARTING FUEL DEL			Rated speed rpm Aneroid pressure	:	2100
	400		hPa	:	1000
Rated speed rpm Del. quantity	: 100		Tolerance mm Check	:	0.4
cm3/1000 strokes Tolerance	: 65.0	+ -	tolerance mm Shutoff solenoid	:	0.7
cm3/1000 strokes Shutoff solenoid	: 15.0		Volt	:	12
Volt	: 12	+ '	KSB/AFB Volt	:	12
KSB/AFB Volt	: 12	+ /	Rated speed rpm Aneroid pressure	:	800
		† '	hPa	:	1000
LOAD-DEPENDENT ST	ART OF DELIVERY	+ :	SV travel mm	:	2.1
SETTING		+ (	Tolerance mm Check	:	0.4
DELIVERY DIFFEREN	CE		tolerance mm Shutoff solenoid	:	0.7
Rated speed rpm Del. quantity	: 1500	•	Volt	:	12
cm3/1000 strokes Tolerance	: -10.0	+ +	KSB/AFB Volt	:	12
cm3/1000 strokes Shutoff solenoid	: 1.0		Rated speed rpm Aneroid pressure	:	500
Volt	: 12		hPa	:	1000
KSB/AFB Volt	: 12		SV travel mm	:	4.0
PRESSURE DIFFEREN	CE	+ (	Tolerance mm Check	:	0.8
Rated speed rpm	: 1500		tolerance mm Shutoff solenoid	:	1.5
			Volt	:	12

		1			
Rated speed rpm	: 1000	1	Check tolerance		
Aneroid pressure		+	ccm/10s	:	41.6
hPa	: 1000	+	Shutoff solenoid		4-2
CV Amount am		†	Volt	:	12
SV travel mm Tolerance mm	: 6.0 : 1.5	Ī	KSB/AFB Volt		12
Check	• • • • • • • • • • • • • • • • • • • •	1	KOB/AID VOCC	•	14
tolerance mm	: 2.0	+	DELIVERY AND BREA	KAWA	AY CHARACTERISTIC
Shutoff solenoid Volt	: 12	†	Dated aroud nam		2300
VOCC	. 12	I	Rated speed rpm Aneroid pressure	:	2300
SUPPLY PUMP PRESS	URE CHARACTERISTIC	+	hPa	:	1000
Bakad amaad me	2100	+	Del. quantity		7/ 0
Rated speed rpm Aneroid pressure	: 2100	Ī	cm3/1000 strokes Tolerance	:	34.0
hPa	: 1000	1	cm3/1000 strokes	:	3.0
Subbly bomb		+	Check tolerance		
pressure bar	7.8	†	cm3/1000s.	:	5.0
Tolerance hPa Shutoff solenoid	: 0.3	I	Shutoff solenoid Volt	•	12
Volt	: 12	+		•	
VOD / 1 PD - 1/- 1 +	. 42	+	KSB/AFB Volt	:	12
KSB/AFB Volt	: 12	1	Rated speed rpm	:	2650
Rated speed rpm	: 800	+	Aneroid pressure	•	20,0
Aneroid pressure	4000	+	hPa	:	1000
hPa Supply pomp	: 1000	İ	Del. quantity cm3/1000 strokes	:	3.5
pressure bar	: 4.0	+	Shutoff solenoid	•	3.9
Tolerance hPa	: 0.3	+	Volt	:	12
Shutoff solenoid Volt	: 12	†	KSB/AFB Volt		12
VOCC	. 12	1	NOD/APD VOCE	•	12
KSB/AFB Volt	: 12	+	Rated speed rpm	:	2450
OVEDELOU OLIMITATY		†	Aneroid pressure hPa		1000
OVERFLOW QUANTITY		I	nea Del. quantity	•	1000
Rated speed rpm	: 600	+	cm3/1000 strokes	:	17.0
Overflow quantity		+	Tolerance		/ 0
ccm/10s Tolerance	: 97.2	Ī	cm3/1000 strokes Check tolerance	:	4.0
ccm/10s	: 22.2	1	cm3/1000s.	:	5.0
		+	Shutoff solenoid		42
Check tolerance ccm/10s	: 22.2	<b>İ</b>	Volt	:	12
Shutoff solenoid		+	KSB/AFB Volt	:	12
Volt	: 12	+	<b>7</b>		000
KSB/AFB Volt	: 12	1	Rated speed rpm Aneroid pressure	:	900
RODIALD VOCC	, 12	+	hPa	:	350
Rated speed rpm	: 2100	+	1.04/		
Aneroid pressure hPa	: 1000	1	LDA/ HBA stroke mm		5.2
Overflow quantity		1	Del. quantity	•	
ccm/10s	: 138.8	+	cm3/1000 strokes	:	46.5
Tolerance ccm/10s	: 41.6	1	Tolerance cm3/1000 strokes	•	0.5
COIII/ 103	· +1.0	Ţ	Check tolerance	•	
		+	cm3/1000s.	:	2.5

Shutoff solenoid		40	+			
Volt	:	12	†	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12	Ī			
			+			
Rated speed rpm Aneroid pressure	:	2100	†			
hPa	:	1000	Ţ	RESIDUAL QUANTITY		
Del. quantity			+			
cm3/1000 strokes	:	46.5	†	Rated speed rpm	:	550
Tolerance cm3/1000 strokes	•	1.5	Ī	Del. quantity cm3/1000 strokes	:	7.0
Check tolerance	•		+	Tolerance	•	
cm3/1000s.	:	2.5	+	cm3/1000 strokes	:	1.5
Shutoff solenoid Volt	•	12	1	Shutoff solenoid Volt		12
VOCC	•	12	Ţ	VOCE	•	12
KSB/AFB Volt	:	12	+	KSB/AFB Volt	:	12
Rated speed rpm	:	900	İ			
Aneroid pressure	•	700	I			
hPa	:	1000	+	CHECKING LOAD-DEP	END	ENT
Del. quantity cm3/1000 strokes		48.5	†	START OF DELIVERY		
Tolerance	•	40.5	Ī	DELIVERY DIFFEREN	CF	
cm3/1000 strokes	;	1.5	+			
Check tolerance		2.5	+	Rated speed rpm	:	1500
cm3/1000S. Shutoff solenoid	:	2.5	Ī	Del. quantity cm3/1000 strokes		-14.0
Volt	:	12	4	Tolerance	•	14.0
			+	cm3/1000 strokes	:	4.0
KSB/AFB Volt	:	12	†	Check tolerance cm3/1000s.		4.0
Rated speed rpm	:	1500	I	Shutoff solenoid	•	4.0
Aneroid pressure			+	Volt	:	12
hPa	:	1000	+	KOD (AED V-1+		43
Del. quantity cm3/1000 strokes	:	46.0	1	KSB/AFB Volt	:	12
Tolerance	•		1	TIMING-DEVICE TRA	/EL	DIFFERENCE
cm3/1000 strokes	:	0.5	+			4500
Check tolerance cm3/1000s.		2.0	1	Rated speed rpm Del. quantity	:	1500
Shutoff solenoid	•	٠.٠	Ţ	cm3/1000 strokes	:	-0.9
Volt	:	12	+	Tolerance		
			†	cm3/1000 strokes	:	0.1
			I	Check tolerance cm3/1000s.	:	0.1
ELECTR. SHUTOFF			+	Shutoff solenoid	•	
CONTROL LEVER, ID	LE ST	OP	+	Volt	:	12
Rated speed rpm	•	450	†	KSB/AFB Volt		12
Rated speed rpm Del. quantity	:	UCH	I	NOD/MED VOLL	•	12
cm3/1000 strokes	:	1.5	+	DELIVERY DIFFERENCE	Œ	
Tolerance		1.5	†	Data da ana antana		1500
cm3/1000 strokes Check tolerance	:	1.5	1	Rated speed rpm Del. quantity	:	1500
cm3/1000s.	:	1.5	1	cm3/1000 strokes	:	1.5
Spread		5.0	+	Tolerance cm3/1000 strokes		1.5
cm3/1000 strokes			,		_	7 [

Check tolerance cm3/1000s. 1.5 Shutoff solenoid Volt

12

KSB/AFB Volt 12

TIMING-DEVICE TRAVEL DIFFERENCE

1500 Rated speed rpm 0.3 Tolerance mm Check

tolerance mm

0.4

Shutoff solenoid

Volt 12

KSB/AFB Volt 12

START TRANSITION

350 Rated speed rpm

Del. quantity cm3/1000 strokes : 40.0

Tolerance

cm3/1000 strokes : 5.0

Shutoff solenoid

12 Volt

KSB/AFB Volt 12

220 Rated speed rpm

Del. quantity

65.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 13.0

Shutoff solenoid

12 Volt

KSB/AFB Volt 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 5.2

: 3,3 Dimension K mm : +-0,1 Tolerance mm : 5,4 Dimension KF mm Tolerance mm : +-0,1 : 1,2 Dimension MS mm

Tolerance mm : +-0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,2..39,2

Control lever

: 36,6..45,4 position YB mm

End of test-specification sheet

020

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.08.94 Test oil : ISO 4113

Part no. : 0 460 494 349 Pump designation : VE4/9F2100R548

Customer-spec. information
Customer : FIAT-AUTO
Motor : M705 VT19.D
Power KW : 60.0

#### TEST BENCH REQUIREMENTS

## Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting mm Tolerance mm Shutoff solenoid	:	6.0 0.2
Volt	:	12
KSB/AFB Volt	:	12

#### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting hPa Tolerance hPa Shutoff solenoid	:	6.1 0.3
Volt	:	12
KSB/AFB Volt	:	12

#### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	1500
Aneroid pressure hPa	:	1000
Del. quantity cm3/1000 strokes	:	46.0
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	2.5
Check tolerance cm3/1000s.	:	2.5
Shutoff solenoid Volt	:	12
KSB/AFB Volt	:	12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity	:	600
cm3/1000 strokes	:	41.5
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid Volt	:	12
Check tolerance cm3/1000s.	:	2.5
KSB/AFB Volt	:	12

	+ Del. quantity
HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING	+ cm3/1000 strokes : -0.2 + Tolerance
Rated speed rpm : 600	cm3/1000 strokes : 0.1 Shutoff solenoid
Del. quantity cm3/1000 strokes : 5.0	+ Volt : 12
Tolerance cm3/1000 strokes : 1.0	KSB/AFB Volt : 12
Shutoff solenoid	TIMING-DEVICE TRAVEL DIFFERENCE
	Rated speed rpm : 1500
KSB/AFB Volt : 12	+ Del. quantity + cm3/1000 strokes : -0.9
FULL-LOAD SPEED REGULATION	Tolerance cm3/1000 strokes : 0.1
Rated speed rpm : 2300 Pressure hPa : 1000	+ Shutoff solenoid + Volt : 12
Del. quantity cm3/1000 strokes : 34.0 Tolerance	KSB/AFB Volt : 12
cm3/1000 strokes : 3.0	
Shutoff solenoid Volt : 12	+ INJECTION-PUMP TEST SPECIFICATIONS
KSB/AFB Volt : 12	+ TIMING DEVICE CHARACTERISTIC
STARTING FUEL DELIVERY	+ Rated speed rpm : 2100 + Aneroid pressure
Rated speed rpm : 100	+ hPa : 1000 + Tolerance mm : 0.4
Del. quantity cm3/1000 strokes : 65.0	+ Check + tolerance mm : 0.7
Tolerance cm3/1000 strokes : 15.0	+ Shutoff solenoid + Volt : 12
Shutoff solenoid Volt : 12	KSB/AFB Volt : 12
KSB/AFB Volt : 12	Rated speed rpm : 800 Aneroid pressure
	hPa : 1000
LOAD-DEPENDENT START OF DELIVERY	SV travel mm : 2.1
SETTING	+ Tolerance mm : 0.4 + Check
DELIVERY DIFFERENCE	tolerance mm : 0.7 Shutoff solenoid
Rated speed rpm : 1500 Del. quantity	+ Volt : 12
cm3/1000 strokes : -10.0 Tolerance	KSB/AFB Volt : 12
cm3/1000 strokes : 1.0 Shutoff solenoid	Rated speed rpm : 500 Aneroid pressure
Volt : 12	hPa : 1000
KSB/AFB Volt : 12	SV travel mm : 4.0 Tolerance mm : 0.8
PRESSURE DIFFERENCE	+ Check
Rated speed rpm : 1500	tolerance mm : 1.5 Shutoff solenoid
	+ Volt : 12

		1				
Rated speed rpm	: 1000	†	Check tolerance			
Aneroid pressure	. 1000	I	ccm/10s	•	41.6	
hPa	: 1000	1	Shutoff solenoid	•	41.0	
		+	Volt	:	12	
SV travel mm	: 6.0	+				
Tolerance mm	: 1.5	+	KSB/AFB Volt	:	12	
Check	: 2.0	†	DELIVEDY AND DOCA	1/0110	NV CHADACTEDICTIC	
tolerance mm Shutoff solenoid	: 2.0	Ī	DELIVERY AND BREA	KAWA	AT CHARACTERISTIC	
Volt	: 12	1	Rated speed rpm	:	2300	
		1	Aneroid pressure	•		
SUPPLY PUMP PRESS	URE CHARACTERISTIC	+	hPa	:	1000	
But all are all areas	2400	†	Del. quantity		7/ 0	
Rated speed rpm	: 2100	†	cm3/1000 strokes	:	34.0	
Aneroid pressure hPa	: 1000	Ī	Tolerance cm3/1000 strokes		3.0	
Supply pomp	. 1000	1	Check tolerance	•	5.0	
pressure bar	: 7.8	+	cm3/1000s.	:	5.0	
Tolerance hPa	: 0.3	+	Shutoff solenoid			
Shutoff solenoid	40	+	Volt	:	12	
Volt	: 12	†	MODIATE Walt	_	12	
KSB/AFB Volt	: 12	I	KSB/AFB Volt	•	14	
KOD/AID VOCE	. 12	I	Rated speed rpm	:	2650	
Rated speed rpm	: 800	+	Aneroid pressure	·		
Aneroid pressure		+	hPa	:	1000	
hPa .	: 1000	+	Del. quantity			
Supply pomp	: 4.0	†	cm3/1000 strokes Shutoff solenoid	:	3.5	
pressure bar Tolerance hPa	: 4.0	Ī	Volt		12	
Shutoff solenoid	. 0.3	1	10(1	•	, _	
Volt	: 12	+	KSB/AFB Volt	:	12	
		+				
KSB/AFB Volt	: 12	†	Rated speed rpm	:	2450	
OVERFLOW QUANTITY		†	Aneroid pressure hPa		1000	
OVERPLOW GOMMITTI		I	Del. quantity	•	1000	
Rated speed rpm	: 600	1	cm3/1000 strokes	:	17.0	
Overflow quantity		+	Tolerance			
ccm/10s	: 97.2	+		:	4.0	
Tolerance	22.2	†	Check tolerance		<b>5</b> 0	
ccm/10s	: 22.2	1	cm3/1000S. Shutoff solenoid	:	5.0	
Check tolerance		Ţ	Volt	:	12	
ccm/10s	: 22.2	1		•		
Shutoff solenoid		+	KSB/AFB Volt	:	12	
Volt	: 12	+			000	
LOD /AFD No. 14	. 12	†	Rated speed rpm	:	900	
KSB/AFB Volt	: 12	Ī	Aneroid pressure hPa		350	
Rated speed rpm	: 2100	Ţ	in a	•	<b>9</b> 50	
Aneroid pressure		+	LDA/			
hPa	: 1000	+	HBA stroke mm	:	5.2	
Overflow quantity	470.0	+	Del. quantity		// 5	
ccm/10s	: 138.8	<b>†</b>	cm3/1000 strokes Tolerance	:	46.5	
Tolerance ccm/10s	: 41.6	I	cm3/1000 strokes	•	0.5	
70m/ 103	, , , , ,	+	Check tolerance	•		
		+	cm3/1000s.	:	2.5	

Shutoff solenoid Volt	:	12	‡	KSB/AFB Volt : 12
KSB/AFB Volt	:	12	1	•
Rated speed rpm Aneroid pressure		2100	1	
hPa Del. quantity	:	1009	1	RESIDUAL QUANTITY
cm3/1000 strokes Tolerance	:	46.5	+	Rated speed rpm : 550 Del. quantity
cm3/1000 strokes Check tolerance	:	1.5	1	cm3/1000 strokes : 7.0 Tolerance
cm3/1000s. Shutoff solenoid	:	2.5	+	cm3/1000 strokes : 1.5 Shutoff solenoid
Volt	:	12	+	Volt : 12
KSB/AFB Volt	:	12	+	KSB/AFB Volt : 12
Rated speed rpm Aneroid pressure		900	+	
hPa Del. quantity	:	1000	+	CHECKING LOAD-DEPENDENT START OF DELIVERY
cm3/1000 strokes Tolerance	:	48.5	+	DELIVERY DIFFERENCE
cm3/1000 strokes Check tolerance	:	1.5	+	Rated speed rpm : 1500
cm3/1000s. Shutoff solenoid	:	2.5	+	Del. quantity cm3/1000 strokes : -14.0
Volt	:	12	+	Tolerance cm3/1000 strokes : 4.0
KSB/AFB Volt	:	12	+	Check tolerance cm3/1000s. : 4.0
Rated speed rpm Aneroid pressure	:	1500	+	Shutoff salenoid Volt : 12
hPa Del. quantity	:	1000	+	KSB/AFB Volt : 12
cm3/1000 strokes Tolerance	:	46.0	‡	TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 strokes Check tolerance	:	0.5	+	Rated speed rpm : 1500
cm3/1000s. Shutoff solenoid	:	2.0	‡	Del. quantity cm3/1000 strokes : -0.9
Volt	:	12	‡	Tolerance cm3/1000 strokes : 0.1
	·		‡	Check tolerance cm3/1000s. : 0.1
ELECTR. SHUTOFF CONTROL LEVER, IC	LE S	STOP	‡	Shutoff solenoid Volt : 12
Rated speed rpm	:	450	‡	KSB/AFB Volt : 12
Del. quantity cm3/1000 strokes	:	1.5	‡	DELIVERY DIFFERENCE
Tolerance cm3/1000 strokes	:	1.5	‡	Rated speed rpm : 1500
Check tolerance cm3/1000s.	:	1.5	‡	Del. quantity cm3/1000 strokes : 1.5
Spread cm3/1000 strokes	:	5.0	‡	Tolerance cm3/1000 strokes : 1.5

Check tolerance cm3/1000s. Shutoff solenoid Volt	: 1.5 : 12
KSB/AFB Volt	: 12
TIMING-DEVICE TRA	VEL DIFFERENCE
Rated speed rpm Tolerance mm Check	: 1500 : 0.3
tolerance mm Shutoff solenoid	: 0.3
Volt	: 12
KSB/AFB Volt	: 12
EXHAUST-GAS RECIR	CULATION
Rated speed rpm	: 1000
Aneroid pressure	: 1000
Del. quantity cm3/1000 strokes	: 20.0
Tolerance cm3/1000 strokes	: 1.0
Check tolerance cm3/1000s.	: 2.5
Shutoff solenoid Volt	: 12
KSB/AFB Volt	: 12
START TRANSITION	
	: 350
Del. quantity cm3/1000 strokes Tolerance	: 40.0
cm3/1000 strokes Shutoff solenoid	: 5.0
Volt	: 12
KSB/AFB Volt	: 12
Rated speed rpm	: 220
Del. quantity cm3/1000 strokes	: 65.0
Tolerance cm3/1000 strokes	: 13.0
Shutoff solenoid Volt	: 12
KSB/AFB Volt	: 12

LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm	: 5.2 : 3,3 : +-0,1 : 5,4 : +-0,2 : 1,2 : +-0,2
POTENTIOMETER SET	
<ol> <li>measurement</li> <li>voltage Volt</li> <li>measurement</li> <li>voltage Volt</li> </ol>	: 5,0 : 0,8
MICROSWITCH SET	
mm	: ARF 12,0
CONTROL LEVER POSI SET	TION
Control lever position YA mm	: 37,239,2
Control lever position YB mm	: 36,645,4

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.02.95 Test oil : ISO 4113

Part no. : 0 460 494 402 Pump designation : VE4/9F2100R548-1

Customer-spec. information
Customer : FIAT-AUTO
Motor : M721 CT19.N
Power KW : 60.0

#### TEST BENCH REQUIREMENTS

## Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

#### **REMARKS**

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure		1500
hPa	:	1000
Setting mm Tolerance mm Shutoff solenoid	:	6.0 0.2
Volt		12
KSB/AFB Volt	:	12

#### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Setting hPa Tolerance hPa Shutoff solenoid	:	6.1 0.3
Volt	:	12
KSB/AFB Volt	:	12

## FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Del. quantity cm3/1000 strokes	:	46.0
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	2.5
Check tolerance cm3/1000s.	:	2.5
Shutoff solenoid Volt	:	12
KSB/AFB Volt	:	12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm Del. quantity	:	600
cm3/1000 strokes	:	41.5
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid Volt	:	12
Check tolerance cm3/1000s.	:	2.5
KSB/AFB Volt	:	12

	+ Del. quantity
HOUSING-FIXED IDLE SPRING	+ cm3/1000 strokes : -0.2
RESIDUAL QUANTITY SETTING	† Tolerance
	+ cm3/1000 strokes : 0.1
Rated speed rpm : 600	+ Shutoff solenoid
Del. quantity cm3/1000 strokes : 5.0	† Volt : 12
Tolerance	KSB/AFB Volt : 12
cm3/1000 strokes : 1.0	+
Shutoff solenoid	TIMING-DEVICE TRAVEL DIFFERENCE
Volt : 12	†
KSB/AFB Volt : 12	+ Rated speed rpm : 1500
KSB/AFB VULL . 12	+ Del. quantity + cm3/1000 strokes : -0.9
FULL-LOAD SPEED REGULATION	+ Tolerance
	+ cm3/1000 strokes : 0.1
Rated speed rpm : 2300	+ Shutoff solenoid
Pressure hPa : 1000	+ Volt : 12
Del. quantity cm3/1000 strokes : 34.0	+ KSB/AFB Volt : 12
Tolerance	T KOBPAFB VOLL . 12
cm3/1000 strokes : 3.0	
Shutoff solenoid	INJECTION-PUMP TEST SPECIFICATIONS
Volt : 12	†
KSB/AFB Volt : 12	TIMING DEVICE CHARACTERISTIC
KSB/AFB Volt : 12	+ Rated speed rpm : 2100
STARTING FUEL DELIVERY	+ Aneroid pressure
	+ hPa : 1000
Rated speed rpm : 100	Tolerance mm : 0.4
Del. quantity	+ Check
cm3/100C strokes : 65.0 Tolerance	tolerance mm : 0.7 Shutoff solenoid
cm3/1000 strokes : 15.0	+ Volt : 12
Shutoff solenoid	+
Volt : 12	+ KSB/AFB Volt : 12
42	+
KSB/AFB Volt : 12	+ Rated speed rpm : 800
	+ Aneroid pressure + hPa : 1000
	1114
LOAD-DEPENDENT START OF DELIVERY	+ SV travel mm : 2.1
SETTING	+ Tolerance mm : 0.4
DEL TUEDU DE EFFORNICE	+ Check
DELIVERY DIFFERENCE	+ tolerance mm : 0.7 + Shutoff solenoid
Ratra speed rpm : 1500	Volt : 12
Del quantity	+
cm $^{3}$ /1000 strokes : $-10.0$	+ KSB/AFB Volt : 12
Tolerance cm3/1000 strokes : 1.0	Poted aread area 500
cm3/1000 strokes : 1.0 Shutoff solenoid	+ Rated speed rpm : 500 + Aneroid pressure
Volt : 12	hPa : 1000
	+
KSB/AFB Volt : 12	+ SV travel mm : 4.0
DOCOCHOE ATECCOENCE	+ Tolerance mm : 0.8
PRESSURE DIFFERENCE	+ Check + tolerance mm : 1.5
Rated speed rpm : 1500	Shutoff solenoid
	+ Volt : 12

		t				
Rated speed rpm	: 1000	1	Check tolerance			
Aneroid pressure	. 1000	+	ccm/10s	:	41.6	
hPa	: 1000	+	Shutoff solenoid		4.5	
SV travel mm	: 6.0	†	Volt	:	12	
Tolerance mm	: 1.5	Ī	KSB/AFB Volt	:	12	
Check	• (1)	1	1007110 1011	•		
tolerance mm	: 2.0	+	DELIVERY AND BREA	KAW	AY CHARACTERISTI	[C
Shutoff sclenoid Volt	: 12	İ	Rated speed rpm	:	2300	
<b>10</b> (1	• ,_	1	Aneroid pressure	•	2300	
SUPPLY PUMP PRESS	URE CHARACTE	RISTIC +	hPa	:	1000	
Pated speed spm	: 2100	†	Del. quantity cm3/1000 strokes		34.0	
Rated speed rpm Aneroid pressure	. 2100	Ī	Tolerance	•	34.0	
hPa	: 1000	+	cm3/1000 strokes	:	3.0	
Supply pomp	7.0	†	Check tolerance		5.0	
pressure bar Tolerance hPa	: 7.8 : 0.3	İ	cm3/1000s. Shutoff solenoid	:	5.0	
Shutoff solenoid		+	Volt	:	12	
Volt	: 12	+			4.0	
KSB/AFB Volt	: 12	1	KSB/AFB Volt	:	12	
NOD/AID VOCE	. , , ,	Ţ	Rated speed rpm	:	2650	
Rated speed rpm	: 800	+	Aneroid pressure			
Aneroid pressure	: 1000	+	hPa	:	1000	
hPa Supply pomp	: 1000	Ī	Del. quantity cm3/1000 strokes	:	3.5	
pressure bar	: 4.0	+	Shutoff solenoid	•	0.3	
Tolerance hPa	: 0.3	+	Volt	:	12	
Shutoff solenoid Volt	: 12	İ	KSB/AFB Volt	:	12	
VOCC		1	ROB/AID VOCE	•	12	
KSB/AFB Volt	: 12	+	Rated speed rpm	:	2450	
OVERFLOW QUANTITY		İ	Aneroid pressure hPa		1000	
OVERTEON GONITITI		Ţ	Del. quantity	•	1000	
Rated speed rpm	: 600	+	cm3/1000 strokes	:	17.0	
Overflow quantity ccm/10s	: 97.2	†	Tolerance cm3/1000 strokes		4.0	
Tolerance	; 71.2	I	Check tolerance	•	4.0	
ccm/10s	: 22.2	+	cm3/1000s.	:	5.0	
Chaok talan		†	Shutoff solenoid		12	
Check tolerance ccm/10s	: 22.2	I	Volt	·	16	
Shutoff solenoid		<del> </del>	KSB/AFB Volt	:	12	
Volt	: 12	†	Dated and all more		000	
KSB/AFB Volt	: 12	Ī	Rated speed rpm Aneroid pressure	:	900	
NODIAID VOCC	•	1	hPa	:	350	
Rated speed rpm	: 2100	+	1.04/			
Aneroid pressure hPa	: 1000	<u> </u>	LDA/ HBA stroke mm		5.2	
Overflow quantity	. 1000	Į	Del. quantity	•	J. C	
ccm/10s	: 138.8	+	cm3/1000 strokes	:	46.5	
Tolerance ccm/10s	: 41.6	†	Tolerance cm3/1000 strokes		0.5	
CUII/ (US	: 41.6	I	Check tolerance	•	<b>U.</b> J	
		+	cm3/1000s.	:	2.5	

		1
Shutoff solenoid Volt	: 12	KSB/AFB Volt : 12
(SB/AFB Volt	: 12	+
ated speed rpm	: 2100	+
eroid pressure a	: (700	RESIDUAL QUANTITY
l. quantity 3/1000 strokes	: 46.5	Rated speed rpm : 550
lerance 3/1000 strokes	: 1.5	+ Del. quantity + cm3/1000 strokes : 7.0
eck tolerance 3/1000S.	: 2.5	Tolerance cm3/1000 strokes : 1.5
utoff solenoid Ut	: 12	+ Shutoff solenoid + Volt : 12
B/AFB Volt	: 12	KSB/AFB Volt : 12
ted speed rpm	: 900	<u> </u>
neroid pressure Pa el. quantity	: 1000	CHECKING LOAD-DEPENDENT START OF DELIVERY
n3/1000 strokes olerance	: 48.5	+ DELIVERY DIFFERENCE
n3/1000 strokes neck tolerance	: 1.5	Rated speed rpm : 1500
n3/1000s. nutoff solenoid	: 2.5	+ Del. quantity + cm3/1000 strokes : -14.0
olt	: 12	Tolerance + cm3/1000 strokes : 4.0
SB/AFB Volt	: 12	+ Check tolerance + cm3/1000s. : 4.0
ated speed rpm meroid pressure	: 1500	Shutoff solenoid  Volt : 12
Pa el. quantity	: 1000	KSB/AFB Volt : 12
3/1000 strokes	: 46.0	TIMING-DEVICE TRAVEL DIFFEREN
olerance n3/1000 strokes	: 0.5	+
eck tolerance n3/1000s. nutoff solenoid	: 2.0	+ Rated speed rpm : 1500 + Del. quantity + cm3/1000 strokes : -0.9
lt	: 12	+ CM3/1000 strokes : -0.9 + Tolerance + cm3/1000 strokes : 0.1
		+ Cm3/1000 strokes : 0.1 + Check tolerance + cm3/1000s. : 0.1
ECTR. SHUTOFF	E STOP	+ Shutoff solenoid + Volt : 12
NTROL LEVER, ID		+
ted speed rpm l. quantity	: 450	+
3/1000 strokes lerance		DELIVERY DIFFERENCE
3/1000 strokes eck tolerance		+ Rated speed rpm : 1500 + Del. quantity
n3/1000S. pread -7/1000 =====line	: 1.5	cm3/1000 strokes : 1.5 Tolerance
m3/1000 strokes	: 5.0	cm3/1000 strokes : 1.5

Check tolerance cm3/1000s. Shutoff solenoid Volt	: 1.5 : 12
KSB/AFB Volt	: 12
TIMING-DEVICE TRA	VEL DIFFERENCE
Dadad speed spe	. 1500
Rated speed rpm Tolerance mm Check	: 1500 : 0.3
tolerance mm	: 0.3
Shutoff solenoid	. 42
Volt	: 12
KSB/AFB Volt	: 12
EXHAUST-GAS RECIR	CULATION
Rated speed rpm Aneroid pressure	: 1000
hPa	: 1000
Del. quantity	. 20.0
cm3/1000 strokes Tolerance	: 20.0
cm3/1000 strokes	: 1.0
Check tolerance cm3/1000s.	: 2.5
Shutoff solenoid	
Volt	: 12
KSB/AFB Volt	: 12
START TRANSITION	
Rated speed rpm	: 350
Del. quantity cm3/1000 strokes	: 40.0
Tolerance cm3/1000 strokes	: 5.0
Shutoff solenoid Volt	: 12
VOCC	
KSB/AFB Volt	: 12
Rated speed rpm	: 220
Del. quantity cm3/1000 strokes	: 65.0
Tolerance	
cm3/1000 strokes Shutoff solenoid	: 13.0
Volt	: 12
KSB/AFB Volt	: 12

LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm	: 5.2 : 3,3 : +-0,1 : 5,4 : +-0,2 : 1,2 : +-0,2
POTENTIOMETER SET	,,

1. measurement voltage Volt : 5,0
1. measurement voltage Volt : 1,85

MICROSWITCH SET

: ARF 12,0

BOSCH	INJ.	PUMP	TEST	SPECIFICATIONS

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.03.95 Test oil : ISO 4113

Part no. : 0 460 494 401 Pump designation : VE4/9F2300R549-1

Customer-spec. information
Customer : FIAT-AUTO
Motor : M721 CA 19.S
Power KW : 51.0

#### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diagram : 6.00

x inside 5.8% : 2.00 x length m : 450

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 5.9

Tolerance mm : 0.2

Shutoff solenoid

Volt : 12

KSB/AFB Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa : 5.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12

KSB/AFB Volt : 12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

3.0

Rated speed rpm : 1500
Del. quantity
cm3/1000 strokes : 34.0
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 3.0
Shutoff solenoid
Volt : 12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

KSB/AFB Volt

Rated speed rpm : 530
Del. quantity
cm3/1000 strokes : 2.5
Tolerance
cm3/1000 strokes : 1.0
Shutoff solenoid

Volt : 12

KSB/AFB Volt : 12

#### FULL-LOAD SPEED REGULATION

Rated speed rpm : 2475 Del. quantity

cm3/1000 strokes : 22.0 Tolerance

cm3/1000 strokes : Shutoff solenoid

Volt : 12

		1
KSB/AFB Volt	: 12	Rated speed rpm : 2300
ATARTING PURI DEL	TUEDV	+ Tolerance mm : 0.4
STARTING FUEL DEL	IVERY	+ Check + tolerance mm : 0.7
Rated speed rpm	: 100	+ Shutoff solenoid
Del. quantity		+ Volt : 12
cm3/1000 strokes Tolerance	: 55.0	KSB/AFB Volt : 12
cm3/1000 strokes	: 20.0	+
Shutoff solenoid Volt	: 12	Rated speed rpm : 800
VOCE	. 12	F SV travel mm : 3.0
KSB/AFB Volt	: 12	Tolerance mm : 0.4
		+ Check + tolerance mm : 0.7
		+ Shutoff solenoid
LOAD-DEPENDENT STA	ART OF DELIVERY	+ Volt : 12
SETTING		+ KSB/AFB Volt : 12
DELIVERY DIFFERENCE	CE	+
<b>5</b> 1 1 1 2 1 1 2 2 1 2 2 2 2 2 2 2 2 2 2	4500	Rated speed rpm : 500
Rated speed rpm Del. quantity	: 1500	SV travel mm : 4.4
cm3/1000 strokes	: -8.5	+ Tolerance mm : 0.8
Tolerance	: 1.0	+ Check + tolerance mm : 1.5
cm3/1000 strokes Shutoff solenoid	: 1.0	tolerance mm : 1.5 Shutoff solenoid
Volt	: 12	+ Volt : 12
KSB/AFB Volt	: 12	+ Rated speed rpm : 1000
		+
PRESSURE DIFFERENCE	CE	SV travel mm : 5.0 Tolerance mm : 1.5
Rated speed rpm	: 1500	+ Check
Del. quantity	. 0.3	tolerance mm : 2.0
cm3/1000 strokes Tolerance	: -0.2	+ Shutoff solenoid + Volt : 12
cm3/1000 strokes		+
Shutoff solenoid	: 12	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Volt	: 12	+ Rated speed rpm : 2300
KSB/AFB Volt	: 12	+ Supply pomp
TIMING DEVICE TOAL	(EL DIEFEDENCE	+ pressure bar : 7.7 + Tolerance hPa : 0.3
TIMING-DEVICE TRAV	VEL DIFFERENCE	+ Shutoff solenoid
Rated speed rpm	: 1500	+ Volt : 12
Del. quantity cm3/1000 strokes	: -0.7	† + KSB/AFB Volt : 12
Tolerance		+
cm3/1000 strokes	: 0.1	Rated speed rpm : 800
Shutoff solenoid Volt	: 12	+ Supply pomp + pressure bar : 4.2
		+ Tolerance hPa : 0.3
KSB/AFB Volt	: 12	+ Shutoff solenoid + Volt : 12
		T
INJECTION-PUMP TES	T SPECIFICATIONS	KSB/AFB Volt : 12
TIMING DEVICE CHAR	ACTERISTIC	+ OVERFLOW QUANTITY

Rated speed rpm Overflow quantity		‡	KSB/AFB Volt	:	12
ccm/10s Tolerance	: 97.2	Ŧ	Rated speed rpm	:	2300
ccm/10s	: 41.6	†	Del. quantity cm3/1000 strokes Tolerance	:	33.0
Check tolerance ccm/10s	: 41.6	Ŧ	cm3/1000 strokes Check tolerance	:	1.3
Shutoff solenoid Volt	: 12	+	cm3/1000S. Shutoff solenoid	:	2.0
KSB/AFB Volt	: 12	Ŧ	Volt	:	12
Rated speed rpm		Ŧ	KSB/AFB Volt	:	12
Overflow quantity ccm/10s		Ŧ	Rated speed rpm Del. quantity	:	1000
Tolerance ccm/10s	: 22.2	Ŧ	cm3/1000 strokes Tolerance	:	32.7
Check tolerance		Ŧ	cm3/1000 strokes Check tolerance	:	1.5
ccm/10s Shutoff solenoid	: 22.2	$\frac{1}{1}$	cm3/1000S. Shutoff solenoid	:	2.5
Volt	: 12	Ī	Volt	:	12
KSB/AFB Volt	: 12	1	KSB/AFB Volt	:	12
DELIVERY AND BREA	KAWAY CHARACTERISTIC	1	Rated speed rpm Del. quantity	:	600
Rated speed rpm Del. quantity	: 2475	+	cm3/1000 strokes Tolerance	:	30.5
cm3/1000 strokes Tolerance	: 22.0	Ì	cm3/1000 strokes Check tolerance	:	1.5
cm3/1000 strokes Check tolerance	: 3.0	1	cm3/1000s. Shutoff solenoid	:	2.0
cm3/1000s. Shutoff solenoid	: 5.0	<u> </u>	Volt	:	12
Volt	: 12	<u> </u>	KSB/AFB Volt	:	12
KSB/AFB Volt	: 12	1	Rated speed rpm Del. quantity	:	1500
Rated speed rpm Del. quantity	: 2700	+	cm3/1000 strokes Tolerance	:	34.0
cm3/1000 strokes Check tolerance	: 6.0	1	cm3/1000 strokes Check tolerance	:	0.5
cm3/1000s. Shutoff solenoid	: 6.0	‡	cm3/1000s. Shutoff solenoid	:	2.0
Volt	: 12	‡	Volt	:	12
KSB/AFB Volt	: 12	+			·····
Rated speed rpm Del. quantity	: 2900	‡	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	TOP
cm3/1000 strokes Tolerance		‡	Rated speed rpm	:	450
cm3/1000 strokes Check tolerance	: 1.5	‡	Del. quantity cm3/1000 strokes	:	1.5
cm3/1000S. Shutoff solenoid	: 1.5	‡	Tolerance cm3/1000 strokes	:	1.5
Volt	: 12	+			

Check tolerance	. 4.5	+ Check tolerance		, 0
cm3/1000s.	: 1.5	+ cm3/1000s.	:	4.0
Spread cm3/1000 strokes	: 5.0	+ Shutoff solenoid		12
CIID/ TOOD Strokes	. 5.0	† Volt	•	12
		T KSB/AFB Volt	•	12
		+ ROBIATE TOTAL	•	, _
		+ TIMING-DEVICE TRA	AVEL	DIFFERENCE
HOUSING-FIXED IDL	E SPRING	+		
HIGH IDLE		+ Rated speed rpm	:	1500
Dawn I am and ama		† Del. quantity		0.7
Rated speed rpm Del. quantity	: 550	+ cm3/1000 strokes + Tolerance	•	-0.7
cm3/1000 strokes	: 8.0	cm3/1000 strokes		0.1
Tolerance	. 0.0	+ Check tolerance	•	0.7
cm3/1000 strokes	: 2.5	+ cm3/1000s.	:	0.1
Shutoff solenoid		+ Shutoff solenoid		
Volt	: 12	† Volt	:	12
KCD/ACD Volt	. 13	+ KCD/AFD Volt	_	10
KSB/AFB Volt	: 12	+ KSB/AFB Volt	:	12
		+ DELIVERY DIFFEREN	1CE	
RESIDUAL QUANTITY	,	+		
		+ Rated speed rpm	:	1500
Rated speed rpm	: 600	+ Del. quantity		
Del. quantity		+ cm3/1000 strokes	:	1.5
cm3/1000 strokes Tolerance	: 4.0	+ Tolerance + cm3/1000 strokes		1.5
cm3/1000 strokes	: 1.5	+ Shutoff solenoid		(.)
Check tolerance	. 1.5	+ Volt	:	12
cm3/1000s.	: 2.0	+		· <del>-</del>
Shutoff solenoid		+   KSB/AFB   Volt	:	12
Volt	: 12	+		
MODIATO WILL	. 12	+ TIMING-DEVICE TRA	WEL	DIFFERENCE
KSB/AFB Volt	: 12	Rated speed rpm	:	1500
		Tolerance mm	•	0.3
IDLE DELIVERY		Shutoff solenoid	•	0.5
		+ Volt	:	12
Rated speed rpm	: 350	+		
Del. quantity		+ KSB/AFB Volt	:	12
cm3/1000 strokes	: 23.0	+		
Tolerance cm3/1000 strokes	: 3.0	+ START TRANSITION		
Shutoff solenoid	: 3.0	I START TRANSPITON		
Volt	: 12	+ Rated speed rpm	:	350
		+ Del. quantity		
KSB/AFB Volt	: 12	+ cm3/1000 strokes	:	30.0
		+ Tolerance		40.0
		+ cm3/1000 strokes	:	10.0
CHECKING LOAD-DEP		+ Shutoff solenoid + Volt		12
START OF DELIVERY		I	•	14
DELIVERY DIFFEREN	CE	KSB/AFB Volt	:	12
	<b>~~</b>	+		-
Rated speed rpm	: 1500	+		
Del. quantity		+ Rated speed rpm	:	130
cm3/1000 strokes	: -13.0	+ Del. quantity	_	40.0
Tolerance		+ cm3/1000 strokes	:	60.0
cm3/1000 strokes	: 4.0	T		

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

KSB/AFB Volt : 12

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,5
Tolerance mm : +-0,2
Dimension MS mm : 1,5
Tolerance mm : +-0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,2..39,2

Control lever

position YB mm : 41,1..49,5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.02.96 Edition Test oil : ISO 4113

Part no. : 0 460 426 241 Pump designation : VE6/12F1250R556-1

Customer-spec. information

Customer : PERKINS

: Q20 Phaser 195Ti Motor

#### TEST BENCH REQUIREMENTS

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

#### **REMARKS**

#### BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,25 Tolerance mm : +-0,02 Outlet

#### INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

1500

2.0 Setting mm Tole ance mm 0.1 Shutoff solenoid

24 Volt

### SUPPLY PUMP PRESSURE

1000 Rated speed rpm

Aneroid pressure

hPa 1500

Setting hPa 7.5 Tolerance hPa 0.3

Shutoff solenoid Volt 24

#### FULL-LOAD DELIVERY WITH BOOST PRESSURE

900 Rated speed rpm Aneroid pressure

hPa 1500 Del. quantity

cm3/1000 strokes : 95.5 Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 5.0 Check tolerance

cm3/1000s. 5.0 Shutoff solenoid Volt 24

#### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm Del. quantity cm3/1000 strokes : 57.0 Tolerance

cm3/1000 strokes : 0.5 Shutoff solenoid

Volt 24 Check tolerance cm3/1000s.5.0

#### IDLE SETTING

Rated speed rpm 280

Del. quantity

cm3/1000 strokes : 11.0

<b>-</b> .	,		
Tolerance cm3/1000 strokes :	2.0	Dated aread num	. 1250
Shutoff solenoid	2.0	Rated speed rpm Aneroid pressure	
Volt :	24	hPa	: 1500
Spread	1	\(\frac{1}{2}\)	-
cm3/1000 strokes :	6.5	SV travel mm	: 3.3
Check tolerance	+	Tolerance mm	: 0.4
cm3/1000s. :	6.5	Shutoff solenoid	
	†	Volt	: 24
FULL-LOAD SPEED REGULATION	na †	CHOOL V DUMD DOCCO	URE CHARACTERISTIC
FOLL-LOAD SPEED REGULATIO	Ī	SUPPLI PUMP PRESS	ORE CHARACTERISTIC
Rated speed rpm : 140	oo 1	Rated speed rpm	: 1250
Pressure hPa : 1	1500	Aneroid pressure	
Del. quantity	<del>-</del>	hPa	: 1500
cm3/1000 strokes :	45.0 +	Supply pomp	
Tolerance	+	pressure bar	
cm3/1000 strokes : Shutoff solenoid	3.0	Tolerance hPa Shutoff solenoid	
Volt :	24	Volt	: 24
	<u> </u>	VOCC	. 24
STARTING FUEL DELIVERY	1	Rated speed rpm	: 700
	+	Aneroid pressure	
Rated speed rpm : 10	<sup>70</sup>	hPa	: 1500
Del. quantity	<b>*</b>	Supply pomp	
cm3/1000 strokes : 16 Tolerance	···· †	pressure bar Tolerance hPa	: 6.4 : 0.3
cm3/1000 strokes : 3	so o I	Shutoff solenoid	. 0.3
Shutoff solenoid	1	Volt	: 24
Volt :	24		
	+	OVERFLOW QUANTITY	
	†	Data dan and ann	. 500
	†	Rated speed rpm Overflow quantity	
		ccm/10s	: 63.8
INJECTION-PUMP TEST SPECI	FICATIONS +	Tolerance	. 33.3
	+	ccm/10s	: 22.2
TIMING DEVICE CHARACTERIS	STIC +		
0	·	Check tolerance	22.2
Rated speed rpm : 110 Aneroid pressure	1	ccm/10s Shutoff solenoid	: 22.2
	500 I	Volt	: 24
	1	1011	
	2.7	Rated speed rpm	: 1250
	0.3	Aneroid pressure	
Check	, , , , , , , , , , , , , , , , , , ,	hPa	: 1500
tolerance mm : Shutoff solenoid	0.7	Overflow quantity ccm/10s	: 97.2
Volt :	24	Tolerance	. 7(.2
•	1	ccm/10s	: 41.6
Rated speed rpm : 90	10		
Aneroid pressure	+	Check tolerance	
hPa : 1	500 +	ccm/10s	: 41.6
SV though the	1.1	Shutoff solenoid	: 24
	0.3	Volt	. 44
Check	Ţ	DELIVERY AND BREAK	CAWAY CHARACTERISTIC
	0.7	3	
Shutoff solenoid	+	Rated speed rpm	: 1400
Volt :	24 +		

D09

Aneroid pressure hPa	:	1500	‡	Aneroid pressure hPa	:	1500	
Del. quantity cm3/1000 strokes	:	45.0	‡	Del. quantity cm3/1000 strokes	:	97.0	
Tolerance cm3/1000 strokes Check tolerance	:	3.0	‡	Tolerance cm3/1000 strokes Check tolerance	:	3.0	
cm3/1000s. Shutoff solenoid	:	6.0	Ī	cm3/1000s. Shutoff solenoid	:	4.0	
Volt	:	24	1	Volt	:	24	
Rated speed rpm Aneroid pressure	:	1350	‡	Rated speed rpm Aneroid pressure	:	900	
hPa Del. quantity	:	1500	‡	hPa Del. quantity	:	1500	
cm3/1000 strokes Tolerance		80.0	‡	cm3/1000 strokes Tolerance		95.5	
cm3/1000 strokes Check tolerance	:	15.0	‡	cm3/1000 strokes Check tolerance	:	0.5	
cm3/1000s. Shutoff solenoid	:	15.0 24	‡	cm3/1000S. Shutoff solenoid Volt	:	3.5 24	
Volt Rated speed rpm	:	1480	Ī				<del></del>
Aneroid pressure	:	1500	1	MECHANICAL SHUTOF	F		
Del. quantity cm3/1000 strokes	:	1.5	+	Rated speed rpm Aneroid pressure	:	1250	
Tolerance cm3/1000 strokes		1.5	‡	hPa Del. quantity	:	1500	
Check tolerance cm3/1000s.	:	1.5	+	cm3/1000 strokes Tolerance		1.5	
Shutoff solenoid Volt	:	24	‡	cm3/1000 strokes Check tolerance	:	1.5	
Rated speed rpm	:	700	†	cm3/1000s. Shutoff solenoid	:	1.5 24	
Aneroid pressure hPa Del. quantity	:	700	Ī	Volt	:		
cm3/1000 strokes Tolerance	:	82.0	1	ELECTR. SHUTOFF CONTROL LEVER, ID	IF S	STOP	
cm3/1000 strokes Check tolerance	:	0.5	+	Rated speed rpm	:	280	
cm3/1000s. Shutoff solenoid	:	3.5	+	Del. quantity cm3/1000 strokes	:	1.5	
Volt	:	24	‡	Tolerance cm3/1000 strokes	:	1.5	
Rated speed rpm Aneroid pressure	:	1250	†	Check tolerance cm3/1000s.	:	1.5	
hPa Del. quantity cm3/1000 strokes	:	1500 104.0	<u> </u>	FULL-LOAD STOP CO	NTRO	L LEVER	
Tolerance cm3/1000 strokes		2.5	$\frac{1}{1}$	Rated speed rpm Del. quantity	:	280	
Check tolerance cm3/1000s.	:	3.5	+	cm3/1000 strokes Tolerance	:	1.5	
Shutoff solenoid Volt	:	24	+	cm3/1000 strokes Spread	:	1.5	
Rated speed rpm	:	700	‡	cm3/1000 strokes	:	5.0	

Check tolerance 1.5 cm3/1000s. IDLE DELIVERY Rated speed rpm 400 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 1.5 Shutoff solenoid Volt 24 300 Rated speed rpm Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 5.0 Shutoff solenoid 24 Volt START TRANSITION 230 Rated speed rpm Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes 20.0 Shutoff solenoid 24 Volt Rated speed rpm 130 Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : 30.0 Shutoff solenoid Volt 24 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,7 : +-0,1 Tolerance mm Dimension KF mm : 6,4 Tolerance mm : +-0,2 MS1 dimension mm : 1,36 : +0,15/-0,1 Tolerance mm KSB travel mm : 8,5

CONTROL LEVER POSITION SFT

Control lever

position YA mm : 37,2..38,2

Control lever

position YB mm : 44,9..53,5

Note remarks		
Refer to Service adjustment instru See microcard(s)	ctions.	
Edition Test oil	: 27.07.95 : ISO 4113	
Part no. Pump designation	: 0 460 426 230 : VE6/12F1350R561	
Customer-spec. in Customer Motor	formation : IVECO-FIAT : 8060.45.4385	
TEST BENCH REQUIR	EMENTS	
Calibrating-oil return temperature °C Tolerance °C	: 55 : 1	
Overflow restriction mm	: 0.75	
Inlet press. bar Tolerance bar	: 0.35 : 0.05	
Test nozzle holde assembly	: 1 688 901 027	
Opening pressure bar Tolerance bar	: 250 : 3	
Test lines	: 1 680 750 073	
Outside diameter	: 6.00	
x inside diameter x length mm	: 2.00 : 450	
REMARKS		
INJECTION PUMP SET	TTNC VALUES	

+	Rated speed rpm	: 1100
‡	Aneroid pressure hPa	: 1000
+	Setting mm	: 2.7 : 0.1
Ī	Tolerance mm Shutoff solenoid Volt	: 24
1	SUPPLY PUMP PRESS	<del>-</del> '
+	Rated speed rpm	
+	Aneroid pressure hPa	: 1005
‡	Setting hPa	: 8.2
1	Tolerance hPa Shutoff solenoid Volt	: 0.3 : 24
Ŧ		- ·
‡	FULL-LOAD DELIVER	RY WITH BOOST PRESSURE
+	Rated speed rpm Aneroid pressure	: 700
1	hPa Del. quantity	: 1000
Ŧ	cm3/1000 strokes	: 65.0
Ŧ	Tolerance cm3/1000 strokes Spread	: 0.5
Ŧ	cm3/1000 strokes	: 3.5
Ŧ	Check tolerance cm3/1000s. Shutoff solenoid	: 5.0
Ŧ	Volt	: 24
Ī	FULL-LOAD DELIV.	WITHOUT BOOST PRESSURE
+	Rated speed rpm Del. quantity	: 500
I	cm3/1000 strokes Tolerance	: 48.0
Ì	cm3/1000 strokes Shutoff solenoid	: 0.5
Ŧ	Volt	: 24
+	Check tolerance cm3/1000s.	: 5.0
Ī	IDLE SETTING	
Ī	Rated speed rpm Del. quantity	: 350
$\frac{1}{1}$	cm3/1000 strokes Tolerance	: 12.0
Ŧ	cm3/1000 strokes	: 2.0
Ŧ	Shutoff solenoid Volt	: 24
‡	Spread cm3/1000 strokes	: 4.0

Check tolerance cm3/1000s.	:	5.0	+ Check + tolerance mm + Shutoff solenoid		0.7	
FULL-LOAD SPEED F	REGUL	LATION	† Volt	:	24	
Datas and and		1500	SUPPLY PUMP PRES	SSURE	CHARACTERIST	[C
Rated speed rpm Pressure hPa Del. quantity	:	1500 1000	Rated speed rpm Aneroid pressure		1350	
cm3/1000 strokes Tolerance	:	40.0	+ hPa	:	1000	
cm3/1000 strokes	:	3.0	+ Supply pomp + pressure bar	:	9.7	
Shutoff solenoid			+ Tolerance hPa	:	0.3	
Volt	:	24	+ Shutoff solenoid + Volt	. :	24	
STARTING FUEL DEL	IVE	RY	+	•		
Rated speed rpm	:	100	+ Rated speed rpm + Aneroid pressure			
Del. quantity		05.0	+ hPa	:	1000	
cm3/1000 strokes	:	85.0	+ Supply pomp		5.5	
Tolerance cm3/1000 strokes	•	25.0	+ pressure bar + Tolerance hPa		0.3	
Shutoff solenoid	•	25.0	Shutoff solenoid	4 .	0.5	
Volt	:	24	Volt	:	24	
			OVERFLOW QUANTIT	ΓΥ		
			Rated speed rpm Aneroid pressure		1350	
INJECTION-PUMP TE	ST S	SPECIFICATIONS	+ hPa	:	1000	
TIMING DEVICE CHA	RACT	TERISTIC	+ Overflow quantit + ccm/10s	; ;	138.8	
<b>-</b>		4000	+ Tolerance			
Rated speed rpm Aneroid pressure	:		+ ccm/10s +	•	41.6	
hPa	:	1000	+ Check tolerance ccm/10s	. <b>:</b>	41.6	
SV travel mm	:	3.8	+ Shutoff solenoid	i	2/	
Tolerance mm Shutoff solenoid	:	0.3	+ Volt	:	24	
Volt	:	24	Rated speed rpm Aneroid pressure	:	600	
Rated speed rpm Aneroid pressure	:	1000	hPa Overflow quantit	:	1000	
hPa	:	1000	ccm/10s Tolerance	:	111.1	
SV travel mm		1.5	+ ccm/10s	_	41.6	
Tolerance mm	:	1 6 2		:	41.0	
Check	:	0.3	+	;	41.0	
+01000000	:	0.3	Check tolerance	:		
tolerance mm	:		Check tolerance ccm/10s	:	41.6	
tolerance mm Shutoff solenoid Volt	:	0.3	Check tolerance	:		
Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	0.3 0.7	Check tolerance ccm/10s Shutoff solenoid	:	41.6 24	TIC
Shutoff solenoid Volt Rated speed rpm Aneroid pressure	:	0.3 0.7 24 1350	Check tolerance ccm/10s Shutoff solenoid Volt	: I :	41.6 24 AY CHARACTERIS	TIC
Shutoff solenoid Volt Rated speed rpm	:	0.3 0.7 24	Check tolerance ccm/10s Shutoff solenoid Volt	: I : :AKAWA	41.6 24	TIC
Shutoff solenoid Volt Rated speed rpm Aneroid pressure	: : : : : : : : : : : : : : : : : : : :	0.3 0.7 24 1350	Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BRE	: I : :AKAWA	41.6 24 AY CHARACTERIS	TIC

Tolerance cm3/1000 strokes	:	3.0	‡	Tolerance cm3/1000 strokes	:	2.0	
Check tolerance cm3/1000s.	:	6.0	‡	Check tolerance cm3/1000s.	:	3.5	
Shutoff solenoid Volt	:	24	Ī	Shutoff solenoid Volt	:	24	
Rated speed rpm Aneroid pressure	:	1450	I	Rated speed rpm Aneroid pressure	:	600	
hPa Del. quantity	:	1000	+	hPa Del. quantity	:	1000	
cm3/1000 strokes Tolerance		53.0	+	cm3/1000 strokes Tolerance		68.0	
cm3/1000 strokes Check tolerance	:	8.0	+	cm3/1000 strokes Check tolerance	:	2.0	
cm3/1000s. Shutoff solenoid	:	10.0	+	cm3/1000s. Shutoff solenoid	:	3.5	
Volt	:	24 1600	+	Volt	:	24 700	
Rated speed rpm Aneroid pressure hPa	•	1000	Ī	Rated speed rpm Aneroid pressure hPa	•	1000	
Del. quantity cm3/1000 strokes	•	1.5	1	Del. quantity cm3/1000 strokes	:	65.0	
Tolerance cm3/1000 strokes		1.5	+	Tolerance cm3/1000 strokes		0.5	
Check tolerance cm3/1000s.	:	1.5	+	Check tolerance cm3/1000s.	:	3.5	
Shutoff solenoid		24	†	Shutoff solenoid Volt		24	
Volt	:	64	T	VOCE	•	24	
Rated speed rpm	:	600	+		•		
Rated speed rpm Aneroid pressure hPa	:		† + + +	ELECTR. SHUTOFF	i F S		
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:	600	<del></del>	ELECTR. SHUTOFF CONTROL LEVER, ID			
Rated speed rpm Aneroid pressure hPa Del. quantity	•	600 400 60.5 0.5	<del>*                                    </del>	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	:	ТОР	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	•	600 400 60.5 0.5 4.0	+++++++++++	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	TOP 350	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	600 400 60.5 0.5 4.0	++++++++++++	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	TOP 350 1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure	•	600 400 60.5 0.5 4.0 24	++++++++++++++	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	TOP 350 1.5 1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	:	600 400 60.5 0.5 4.0 24 1350 1000	+++++++++++++++++	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : :	TOP 350 1.5 1.5 1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	600 400 60.5 0.5 4.0 24	+++++++++++++++++	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO	: : :	TOP 350 1.5 1.5 1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	600 400 60.5 0.5 4.0 24 1350 1000 59.5	<del></del>	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : NTRO :	TOP  350  1.5  1.5  5.0  L LEVER  350  1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	600 400 60.5 0.5 4.0 24 1350 1000 59.5 1.5	<del></del>	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread	: : : : NTRO : :	TOP  350  1.5  1.5  5.0  L LEVER  350  1.5  1.5	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	600 400 60.5 0.5 4.0 24 1350 1000 59.5 1.5 3.5	<del>-+++++++++++++++++++++++++++++</del>	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	: : : : NTRO : :	TOP  350  1.5  1.5  5.0  L LEVER  350  1.5  1.5  5.0	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		600 400 60.5 0.5 4.0 24 1350 1000 59.5 1.5 3.5 24	<del></del>	ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes	: : : : : : : :	TOP  350  1.5  1.5  5.0  L LEVER  350  1.5  1.5	

#### IDLE DELIVERY

Rated speed rpm : 425
Del. quantity
cm3/100C strokes : 1.5
Tolerance
cm3/100O strokes : 1.5
Check tolerance
cm3/100Os. : 1.5
Shutoff solenoid
Volt : 24

Rated speed rpm : 375
Del. quantity
cm3/1000 strokes : 5.0
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000s. : 5.0
Shutoff solenoid
Volt : 24

#### START TRANSITION

Rated speed rpm : 250
Del. quantity
cm3/1000 strokes : 40.0
Tolerance
cm3/1000 strokes : 15.0
Shutoff solenoid
Volt : 24

Rated speed rpm : 130
Del. quantity
cm3/1000 strokes : 85.0
Tolerance
cm3/1000 strokes : 25.0
Shutoff solenoid
Volt : 24

#### ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,6
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
MS1 dimension mm : 1,6
Tolerance mm : +0,15/0,1
KSB travel mm : 10,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,9..39,9

Control lever

position YB mm : 42,5..47,7

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.01.96 : ISO 4113 Test oil

Part no. : 0 460 424 101 Pump designation : VE4/12F1200R568

Customer-spec. information Customer : MAN

: D 0824 LFL 01 Motor

114.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar 3

: 1 680 750 000 Test lines

6.00 Outside diameter :

x inside diameter : 2.00 840 x length mm

**REMARKS** 

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 850

Aneroid pressure

1500 :

Setting mm 2.2 Tolerance mm 0.2

KSB/AFB Volt : 24

SUPPLY PUMP PRESSURE

Rated speed rpm 850

Aneroid pressure

1500 hPa

Setting hPa 6.7 Tolerance hPa 0.3

KSB/AFB Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa 1500

Del. quantity

cm3/1000 strokes : 108.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s.4.5

KSB/AFB Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 550

Del. quantity

cm3/1000 strokes : 61.0

Tolerance

cm3/1000 strokes : 0.5

Check tolerance

cm3/1000s. 4.5

KSB/AFB Volt 24 :

IDLE SETTING

400 Rated speed rpm

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : 2.0

Spread

cm3/1000 strokes : 6.0

Check tolerance cm3/1000s.	: 6.5	SV travel mm : 1.1
		+ Tolerance mm : 0.4
KSB/AFB Volt	: 24	+ Check
		tolerance mm : 0.7
FULL-LOAD SPEED R	REGULATION	KSB/AFB Volt : 24
Rated speed rpm	: 1300	Rated speed rpm : 1200
Pressure hPa	: 1500	+ Aneroid pressure
Del. quantity		hPa : 1500
cm3/1000 strokes	: 75.0	+
Tolerance	7.0	+ SV travel mm : 4.9
cm3/1000 strokes	: 3.0	+ Tolerance mm : 0.4
KSB/AFB Volt	: 24	+ Check + tolerance mm : 0.4
1100//110	•	+
STARTING FUEL DEL	IVERY	KSB/AFB Volt : 24
Rated speed rpm	: 100	SUPPLY PUMP PRESSURE CHARACTERISTIC
Del. quantity	. 175.0	† Dotad annud 2000
cm3/1000 strokes	: 135.0	+ Rated speed rpm : 1200 + Aneroid pressure
Tolerance cm3/1000 strokes	: 30.0	+ hPa : 1500
CIIIS/ TOOD SET ONES	. 50.0	Supply pomp
KSB/AFB Volt	: 24	pressure bar : 8.5
		+ Tolerance hPa : 0.3
SET GRADUATED STA	RTING DELIVERY	+
CONTROL LEVER, ID	LE STOP	+ KSB/AFB Volt : 24
Rated speed rpm	: 100	Rated speed rpm : 550
Del. quantity		+ Aneroid pressure
cm3/1000 strokes	: 45.0	+ hPa : 1500
Tolerance cm3/1000 strokes	: 1.0	+ Supply pomp + pressure bar : 5.2
cm3/1000 Strokes	: 1.0	+ pressure bar : 5.2 + Tolerance hPa : 0.3
KSB/AFB Volt	: 24	Total difference in a constant of the constant
NOD/ MID VOCC		KSB/AFB Volt : 24
		+
		+ OVERFLOW QUANTITY
INJECTION-PUMP TE	ST SPECIFICATIONS	Rated speed rpm : 550
1140 ECT 1 OT 1 OT 1	DI DIECTITORITORO	+ Overflow quantity
TIMING DEVICE CHA	RACTERISTIC	+ ccm/10s : 63.8
		+ Tolerance
Rated speed rpm	: 1000	+ ccm/10s : 22.2
Aneroid pressure	4500	†
hPa	: 1500	+ Check tolerance
CV though mm	: 4.0	+ ccm/10s : 22.2
SV travel mm Tolerance mm	: 0.4	KSB/AFB Volt : 24
Check	. 0.4	TODY ALB VOCE : 24
tolerance mm	: 0.7	Ratad speed rpm : 1200
		+ Aneroid pressure
KSB/AFB Volt	: 24	+ hPa : 1500
	750	+ Overflow quantity
Rated speed rpm	: 750	+ ccm/10s : 97.2
Aneroid pressure	: 1500	+ Tolerance + ccm/10s : 41.6
hPa	. 1000	T CCIII/ 105 . 41.0
		ı

			•	+			
Check tolerance				+	KSB/AFB Volt	:	24
ccm/10s	:	41.6	•	t			
			•	+	Rated speed rpm	:	1200
KSB/AFB Volt	:	24	•	t	Aneroid pressure		
			-	t	hPa	:	1500
DELIVERY AND BREA	IKAWA	NY CHARACTERIST	IC -	+	Del. quantity		
			-	+	cm3/1000 strokes	:	103.0
Rated speed rpm	:	1300	-	╁	Tolerance		
Aneroid pressure	C.		-	+	cm3/1000 strokes	:	2.5
hPa	÷	1500	-	+	Check tolerance		
Del. quantity			-	+	cm3/1000s.	:	4.0
cm3/1000 strokes	:	75.0	-	+			
Tolerance			-	+	KSB/AFB Volt	:	24
cm3/1000 strokes	:	3.0	-	╁			
			-	+	Rated speed rpm	:	700
KSB/AFB Volt	:	24	-	+	Aneroid pressure		
			-	+	hPa	:	1500
Rated speed rpm	:	1340	-	+	Del. quantity		
Aneroid pressure			-	+	cm3/1000 strokes	:	112.5
hPa	:	1500	-	+	Tolerance		
Del. quantity			-	+	cm3/1000 strokes	:	2.5
cm3/1000 strokes	:	12.0	-	+	Check tolerance		
			-	+	cm3/1000s.	:	5.5
KSB/AFB Volt	:	24	-	+			
			-	+	KSB/AFB Volt	:	24
Rated speed rpm	:	1260	-	+			
Aneroid pressure			-	t	Rated speed rpm	:	850
hPa	:	1500	-	t	Aneroid pressure		
Del. quantity			-	t	hPa	:	1500
cm3/1000 strokes	:	100.0	-	+	Del. quantity		
Check tolerance			-	+	cm3/1000 strokes	:	114.0
cm3/1000s.	:	5.0	-	+	Tolerance		
			-	+		:	2.5
KSB/AFB Volt	:	:4	=	t	Check tolerance		
			=	t	cm3/1000s.	:	4.5
Rated speed rpm	:	137	-	+			
Aneroid pressure			7	H	KSB/AFB Volt	:	24
hPa	:	1	7	+			
Del. quantity			+	t	Rated speed rpm		550
cm3/1000 strokes	:		-	+	Aneroid pressure		
Tolerance			-	t	hPa	:	1500
cm3/1000 strokes	:	1.5	-	t	Del. quantity		44.
Check tolerance		4 =	-	t	cm3/1000 strokes	:	114.0
cm3/1000S.	:	1.5	-	<u> </u>	Tolerance		, -
		2,	7	-	cm3/1000 strokes	:	4.5
KSB/AFB Volt	:	24	7	<b>-</b>	Check tolerance		
		550	4	-	cm3/1000s.	:	6.0
Rated speed rpm	:	550	7	-	KOD (450 )		27
Aneroid pressure		/00	7	-	KSB/AFB Volt	:	24
hPa	:	400	7		Dated aread are		1000
100/			7		Rated speed rpm Aneroid pressure	:	1000
LDA/ HBA stroke mm		7.6	1		hPa		1500
Del. quantity	•	7.0	]		Del. quantity	•	1000
cm3/1000 strokes		81.0	]		cm3/1000 strokes		108.0
Tolerance	•	01.0	]	L	Tolerance	•	100.0
cm3/1000 strokes		0.5	]	<u>_</u>		:	0.5
Check tolerance	•	0.7	3	<u>_</u>	Check tolerance	•	٠.٧
cm3/1000s.	:	2.5	1	_	cm3/1000s.	:	2.5
5.1107 1 0000 t	•		[			•	2.5

#### MECHANICAL SHUTOFF

Rated speed rpm	:	1200
Aneroid pressure hPa	:	1500
Del. quantity cm3/1000 strokes	:	1.5
Tolerance cm3/1000 strokes	:	1.5
Spread cm3/1000 strokes	:	5.0
Check tolerance cm3/1000S.	:	1.5
Spread cm3/1000 strokes	:	5.0
KSB/AFB Volt	:	24

## IDLE DELIVERY

:	500
:	1.5
:	1.5
:	1.5
:	24
	:

#### START TRANSITION

Rated speed rpm Del. quantity	:	430
cm3/1000 strokes Tolerance	:	68.0
cm3/1000 strokes	:	20.0
KSB/AFB Volt	:	24
Rated speed rpm	:	330
Del. quantity cm3/1000 strokes Tolerance	:	90.0
cm3/1000 strokes	:	15.0
KSB/AFB Volt	:	24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/
HBA stroke mm : 7.6
Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,4
Tolerance mm : +0,2
MS1 dimension mm : 1,5
Tolerance mm : +0,15/-0,1

KSB travel mm : 7,1

MICROSWITCH

SET

mm : GST 71,9

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 35,4..40,6

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.11.95 Test oil : ISO 4113

Part no. : 0 460 494 353 Pump designation : VE4/9F2250R571

Customer-spec. information
Customer : OPEL
Motor : 1,7 DT-LC
Power KW : 50.0

#### TEST BENCH REQUIREMENTS

## Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000
Setting mm : 4.2
Tolerance mm : 0.1
Shutoff solenoid
Volt : 12
KSB/AFB Volt : 12

#### SUPPLY PUMP PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting hPa : 6.4
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

## FULL-LOAD DELIVERY WITH BOOST PRESSURE

1200 Rated speed rpm Aneroid pressure 1000 Del. quantity cm3/1000 strokes : 33.3 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 2.5 Shutoff solenoid 12 Volt KSB/AFB Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. : 2.5

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 4.5
Tolerance
cm3/1000 strokes : 0.5
Shutoff solenoid
Volt : 12

KSB/AFB Volt	:	12	+ Aneroid pressure + hPa : 1000 + Del. quantity	
FULL-LOAD SPEED R	REGULA	TION	+ cm3/1000 strokes : −0.2	
Rated speed rpm		2550	Tolerance cm3/1000 strokes : 0.1	
Pressure hPa Del. quantity	:	1000	+ Shutoff solenoid + Volt : 12	
cm3/1000 strokes Tolerance		24.0	+ KSB/AFB Volt : 12	
cm3/1000 strokes Shutoff solenoid	:	2.0	<pre>+     TIMING-DEVICE TRAVEL DIFFERENCE</pre>	
Volt	:	12	+ Rated speed rpm : 1000	
KSB/AFB Volt	:	12	+ Aneroid pressure + hPa : 1000	
STARTING FUEL DEL	.IVERY	•	Del. quantity cm3/1000 strokes : -0.6	
Rated speed rpm Del. quantity	:	100	Tolerance cm3/1000 strokes : 0.1	
cm3/1000 strokes Tolerance	:	44.0	+ Shutoff solenoid + Volt : 12	
cm3/1000 strokes Shutoff solenoid	:	8.0	KSB/AFB Volt : 12	
Volt	:	12	ROBFAFB VOLL . 12	
KSB/AFB Volt	:	12	INJECTION-PUMP TEST SPECIFICATION	٧S
SET GRADUATED STA			TIMING DEVICE CHARACTERISTIC	
Rated speed rpm	:	100	+ Rated speed rpm : 2250 + Aneroid pressure	
Del. quantity cm3/1000 strokes		44.0	+ hPa : 1000 + Tolerance mm : 0.3	
Shutoff solenoid Volt	•	12	+ Check + tolerance mm : 0.6	
	•		+ Shutoff solenoid	
KSB/AFB Volt	:	12	+ Volt : 12	
LOAD-DEPENDENT ST	ART O	F DELIVERY	+ KSB/AFB Volt : 12	
SETTING			+ Rated speed rpm : 1000 + Aneroid pressure	
DELIVERY DIFFEREN	CE		+ hPa : 1000	
Rated speed rpm Pressure hPa		1000 1000	SV travel mm : 1.7 Tolerance mm : 0.3	
Del. quantity			+ Check	
	:	-9.0	+ tolerance mm : 0.6 + Shutoff solenoid	
cm3/1000 strokes Tolerance				
		1.0	Volt : 12	
Tolerance cm3/1000 strokes		1.0 12		
Tolerance cm3/1000 strokes Shutoff solenoid			Volt : 12  KSB/AFB Volt : 12  Rated speed rpm : 400	
Tolerance cm3/1000 strokes Shutoff solenoid Volt	: :	12	Volt : 12  KSB/AFB Volt : 12	

Check		± 0v	erflow quantity		
tolerance mm Shutoff solenoid	: 1.2	+ cc	m/10s lerance	:	63.8
Volt	: 12		m/10s	:	22.2
Rated speed rpm Aneroid pressure	: 800		eck tolerance m/10s	•	22.2
hPa	: 1000	+ sh	utoff solenoid	•	12
SV travel mm	: 3.0	+		•	
Tolerance mm Check	: 1.0	+	B/AFB Volt	:	12
tolerance mm Shutoff solenoid	: 1.2	† DE	LIVERY AND BREAK	CAWAY	CHARACTERISTIC
Volt	: 12		ted speed rpm eroid pressure	: 2	550
SUPPLY PUMP PRESS	SURE CHARACTERISTIC	+ hP		:	1000
Rated speed rpm Aneroid pressure	: 2250	+ cm	3/1000 strokes lerance	:	24.0
hPa Supply pomp	: 1000	+ cm	3/1000 strokes eck tolerance	:	2.0
pressure bar Tolerance hPa	: 8.5 : 0.3	+ cm	3/1000s. utoff solenoid	:	4.0
Shutoff solenoid		+ Vo		:	12
Volt	: 12	+ KS	B/AFB Volt	:	12
KSB/AFB Volt	: 12		ted speed rpm	: 27	<b>'</b> 25
Rated speed rpm Aneroid pressure	: 1000	+ hP		:	1000
hPa Supply pomp	: 1000	+ cm	l. quantity 3/1000 strokes	:	7.0
pressure bar Tolerance hPa	: 5.0 : 0.3	+ Shi + Vo	utoff solenoid lt	:	12
Shutoff solenoid Volt	: 12	+ KSI	B/AFB Volt	:	12
KSB/AFB Volt	: 12		ted speed rpm eroid pressure	: 29	950
OVERFLOW QUANTITY		+ hPa		:	1000
Rated speed rpm Aneroid pressure	: 2250	+ cm	3/1000 strokes lerance	:	2.0
hPa Overflow quantity	: 1000	+ cm	3/1000 strokes eck tolerance	:	2.0
ccm/10s Tolerance	: 97.2	+ cm:	3/1000s. utoff solenoid	:	2.0
ccm/10s	: 41.6	† Vo		:	12
Check tolerance ccm/10s	: 41.6	+ KSE	B/AFB Volt	:	12
Shutoff solenoid Volt	: 12		ted speed rpm eroid pressure	: 22	50
KSB/AFB Volt	: 12	+ hPa		:	1000
Rated speed rpm	: 700	+ cm3	3/1000 strokes lerance	:	36.5
Aneroid pressure hPa	· · · · ·		3/1000 strokes	:	1.3

Check tolerance			+	Aneroid pressure			
cm3/1000s.	:	2.3	+	<u>h</u> Pa	:	50	
Shutoff solenoid		40	†	Tolerance		0.5	
Volt	:	12	†	cm3/1000 strokes	:	0.5	
KOD (AFD. Walls		40	†	Check tolerance		0.5	
KSB/AFB Volt	:	12	†	cm3/1000s.	:	0.5	
Date I see at any		500	t	Check tolerance		0.5	
Rated speed rpm	:	5 <b>00</b>	†	cm3/1000s.	:	0.5	
Del. quantity		74.0	†	Shutoff solenoid		40	
cm3/1000 strokes	:	31.0	+	Volt	:	12	
Tolerance		2 -	†	KOD (ASD. W. L.		40	
cm3/1000 strokes	:	2.5	†	KSB/AFB Volt	:	12	
Check tolerance		7.0	†	5		700	
cm3/1000s.	:	3.0	†	Rated speed rpm	:	700	
Shutoff solenoid		40	†	Aneroid pressure		470	
Volt	:	12	†	hPa	:	170	
LOD (ASD. W. L.		40	†	Del. quantity		2 /	
KSB/AFB Volt	:	12	†	cm3/1000 strokes	:	2.4	
Dame of amount own		1000	†	Check tolerance		4 0	
Rated speed rpm	:	1800	†	cm3/1000s.	:	1.0	
Aneroid pressure		4000	†	Shutoff solenoid		45	
hPa	:	1000	†	Volt	:	12	
Del. quantity		7/ 0	†	KOD /AED Walt		10	
cm3/1000 strokes	:	36.2	†	KSB/AFB Volt	:	12	
Tolerance		4 5	†				
cm3/1000 strokes	:	1.5	†				
Check tolerance	_	2.7	†	ELECTR CHUTCE			
cm3/1000s.	:	2.3	†	ELECTR. SHUTOFF		TOD	
Shutoff solenoid	_	12	†	CONTROL LEVER, IC	LE S	105	
Volt	•	12	†	Datad award nam		/. Q.E	
KCD/AED Vol+		12	†	Rated speed rpm Del. quantity	:	485	
KSB/AFB Volt	:	12	+	vet. quantity			
			i		_	1 5	
Dated aroad nam		700	+	cm3/1000 strokes	:	1.5	
Rated speed rpm		700	+	cm3/1000 strokes Tolerance			
Aneroid pressure			+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes		1.5 1.5	
Aneroid pressure hPa		700 1000	+ + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		1.5	
Aneroid pressure hPa Del. quantity	:	1000	+ + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.			
Aneroid pressure hPa Del. quantity cm3/1000 strokes	:		+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	:	1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	1000 31.5	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1000	+ + + + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: :	1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1000 31.5 1.5	+ + + + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: :	1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1000 31.5	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : : NTRO	1.5 1.5 5.0 L LEVER	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1000 31.5 1.5 3.0	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO	: :	1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1000 31.5 1.5	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity	: : : NTRO	1.5 1.5 5.0 L LEVER 485	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes	: : : NTRO	1.5 1.5 5.0 L LEVER	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1000 31.5 1.5 3.0	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : NTRO	1.5 1.5 5.0 L LEVER 485 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt KSB/AFB Volt	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : NTRO	1.5 1.5 5.0 L LEVER 485	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt KSB/AFB Volt Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread	: : : NTRO	1.5 1.5 5.0 L LEVER 485 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt KSB/AFB Volt Rated speed rpm Aneroid pressure	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes	: : : NTRO	1.5 1.5 5.0 L LEVER 485 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt KSB/AFB Volt Rated speed rpm Aneroid pressure hPa	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	: : : NTRO	1.5 1.5 5.0 L LEVER 485 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s.	: : : NTRO	1.5 1.5 5.0 L LEVER 485 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt KSB/AFB Volt Rated speed rpm Aneroid pressure hPa	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3 0.5 2.3	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3 0.5	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3 0.5 2.3	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1000 31.5 1.5 3.0 12 12 1200 1000 33.3 0.5 2.3	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : : : : : :	1.5 1.5 5.0 L LEVER 485 1.5 1.5 5.0	

Dated aread and	. /05	1
Rated speed rpm Del. quantity		KSB/AFB Volt : 12
cm3/1000 strokes Tolerance		TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 strokes Shutoff solenoid		+ Rated speed rpm : 1000
Volt	: 12	+ Aneroid pressure
KSB/AFB Volt	: 12	+ hPa : 1000 + Tolerance mm : 0.3
		+ Check + tolerance mm : 0.4
CHECKING LOAD-DEN		Shutoff solenoid 12
DELIVERY DIFFEREN	NCE	KSB/AFB Volt : 12
Rated speed rpm		EXIMATE CAS DESTROY ATTOM
Aneroid pressure hPa	: 1000	+ EXHAUST-GAS RECIRCULATION
Del. quantity cm3/1000 strokes	: -11.0	Rated speed rpm : 1000 Aneroid pressure
Tolerance		hPa : 1000
cm3/1000 strokes Check tolerance		+ Del. quantity + cm3/1000 strokes : 16.0
cm3/1000s. Shutoff solenoid	: 4.0	+ Tolerance + cm3/1000 strokes : 1.0
Volt	: 12	+ Check tolerance
KSB/AFB Volt	: 12	+ cm3/1000S. : 2.5 + Shutoff solenoid
TIMING-DEVICE TRA	AVEL DIFFERENCE	+ Volt : 12
		KSB/AFB Volt : 12
Rated speed rpm Aneroid pressure		† + START TRANSITION
hPa Del. quantity	: 1000	+ Rated speed rpm : 400
cm3/1000 strokes	: -0.6	+ Del. quantity
Tolerance cm3/1000 strokes	: 0.1	cm3/1000 strokes : 32.0 Tolerance
Check tolerance cm3/1000s.	: 0.1	cm3/1000 strokes : 5.0 Shutoff solenoid
Shutoff solenoid		+ Volt : 12
Volt	: 12	+ + KSB/AFB Volt : 12
KSB/AFB Volt	: 12	<u>†</u>
DELIVERY DIFFEREN	ICE	Rated speed rpm : 250
Rated speed rpm	: 1000	+ Del. quantity + cm3/1000 strokes : 50.0
Aneroid pressure	: 1000	Tolerance cm3/1000 strokes : 10.0
Del. quantity		+ Shutoff solenoid
cm3/1000 strokes Tolerance	: 6.0	+ Volt : 12
cm3/1000 strokes Check tolerance	: 1.0	KSB/AFB Volt : 12
cm3/1000s.	: 1.0	
Shutoff solenoid Volt	: 12	+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
· <del>· · ·</del>		Dimension K mm : 3,3

Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 0,9
Tolerance mm : +-0,2

MICROSWITCH

SET

mm : ARF12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 24,2..26,2

Control lever

position YB mm : 53,0..63,6

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.11.95 Test oil : ISO 4113

Part no. : 0 460 494 372 Pump designation : VE4/9F2250R571-1

Customer-spec. information
Customer : OPEL
Motor : 1,7 DTL
Power KW : 50.0

# TEST BENCH REQUIREMENTS

# Calibrating—oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

D26

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting mm : 4.2
Tolerance mm : 0.1
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

# SUPPLY PUMP PRESSURE

Rated speed rpm : 1500
Aneroid pressure
hPa : 1000

Setting hPa : 6.4
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

KSB/AFB Volt : 12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1200 Aneroid pressure 'nPa 1000 Del. quantity cm3/1000 strokes : 33.3 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 2.5 Shutoff solenoid 12 Volt KSB/AFB Volt 12 :

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Check tolerance

Volt

cm3/1000s. : 2.5

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 4.5
Tolerance
cm3/1000 strokes : 0.5
Shutoff solenoid

KSB/AFB Volt : 12	+ Aneroid pressure + hPa : 1000
NOD/AFB VOLL : 12	+ Del. quantity
FULL-LOAD SPEED REGULATION	+ cm3/1000 strokes : -0.2
	+ Tolerance
Rated speed rpm : 2550	+ cm3/1000 strokes : 0.1
Pressure hPa : 1000	+ Shutoff solenoid
Del. quantity cm3/1000 strokes : 24.0	† Volt : 12
cm3/1000 strokes : 24.0 Tolerance	+ KSB/AFB Volt : 12
cm3/1000 strokes : 2.0	T ROBIATO VOCC . 12
Shutoff solenoid	TIMING-DEVICE TRAVEL DIFFERENCE
Volt : 12	+
	+ Rated speed rpm : 1000
KSB/AFB Volt : 12	+ Aneroid pressure
STARTING FUEL DELIVERY	+ hPa : 1000 + Del. quantity
STARTING FOEL DELIVERT	+ cm3/1000 strokes : -0.6
Rated speed rpm : 100	+ Tolerance
Del. quantity	+ cm3/1000 strokes : 0.1
cm3/1000 strokes : 44.0	+ Shutoff solenoid
Tolerance	+ Volt : 12
cm3/1000 strokes : 8.0 Shutoff solenoid	+ + KSB/AFB Volt : 12
Volt : 12	I KOBPAFB VOLL : 12
KSB/AFB Volt : 12	INJECTION-PUMP TEST SPECIFICATIONS
CET CRANUATER CTARTING RELIGION	TIMING DEVICE GHADACTEDICITS
SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP	† TIMING DEVICE CHARACTERISTIC
CONTROL LEVERY INCL OTO	Rated speed rpm : 2250
Rated speed rpm : 100	Aneroid pressure
Del. quantity	+ hPa : 1000
cm3/1000 strokes : 44.0	+ Tolerance mm : 0.3
Shutoff solenoid Volt : 12	+ Check
Volt : 12	+ tolerance mm : 0.6 + Shutoff solenoid
KSB/AFB Volt : 12	+ Volt : 12
	+
	KSB/AFB Volt : 12
LOAD-DEPENDENT START OF DELIVERY	+
SETTING	Rated speed rpm : 1000
DELIVERY DIFFERENCE	+ Aneroid pressure + hPa : 1000
DECIVER! DIFFERENCE	T 11F8 . 1000
Rated speed rpm : 1000	→ SV travel mm : 1.7
Pressure hPa : 1000	+ Tolerance mm : 0.3
Del. quantity	+ Check
cm3/1000 strokes : -9.0	tolerance mm : 0.6
Tolerance cm3/1000 strokes : 1.0	+ Shutoff solenoid + Volt : 12
Shutoff solenoid	I vott
Volt : 12	→ KSB/AFB Volt : 12
	+
KSB/AFB Volt : 12	+ Rated speed rpm : 400
DDECOURE DIFFERENCE	Aneroid pressure
PRESSURE DIFFERENCE	† hPa : 1000
Rated speed rpm : 1000	T SV travel mm : 1.8
Hadda opeca i pin - 1000	+ Tolerance mm : 1.0
	•

Check tolerance mm	: 1.7	2	‡	Overflow quanti	ty :	63.8	
Shutoff solenoid Volt	: 12	>	<u>†</u>	Tolerance ccm/10s	:	22.2	
Rated speed rpm	: 800		1	Check tolerance	·		
Aneroid pressure	: 1000	n	+	ccm/10s Shutoff solenoid	:	22.2	
			Ŧ	Volt	:	12	
SV travel mm Tolerance mm	: 3.0 : 1.0		+	KSB/AFB Volt	:	12	
Check tolerance mm	: 1.3	2	+	DELIVERY AND BR	EAKAWA	Y CHARACT	TERISTIC
Shutoff solenoid Volt	: 12	2		Rated speed rpm		2550	
SUPPLY PUMP PRESS	URE CHARACT	TERISTIC	+	Aneroid pressure	e :	1000	
Rated speed rpm	: 2250		+	Del. quantity cm3/1000 strokes	s :	24.0	
Aneroid pressure hPa	: 1000	)	+	Tolerance cm3/1000 strokes		2.0	
Supply pomp pressure bar	: 8.5		+	Check tolerance cm3/1000s.	:	4.0	
Tolerance hPa Shutoff solenoid	: 0.3	3		Shutoff solenoid Volt	:	12	
Volt	: 12		+	KSB/AFB Volt	:	12	
KSB/AFB Volt	: 12	2	+	Rated speed rpm	:	2725	
Rated speed rpm Aneroid pressure	: 1000		+	Aneroid pressure		1000	
hPa Supply pomp	: 1000	)		Del. quantity cm3/1000 strokes	s :	7.0	
pressure bar Tolerance hPa	: 5.0 : 0.3		+	Shutoff solenoid Volt		12	
Shutoff solenoid Volt	: 12	· •	+	KSB/AFB Volt	:	12	
KSB/AFB Volt	: 12		+	Rated speed rpm	:	2950	
OVERFLOW QUANTITY			+	Aneroid pressure hPa		1000	
Rated speed rpm	: 2250		<del>}</del>	d Del. quantity cm3/1000 strokes	•	2.0	
Aneroid pressure	: 1000		+	Tolerance cm3/1000 strokes		2.0	
Overflow quantity ccm/10s			+	Check tolerance cm3/1000s.		2.0	
Tolerance ccm/10s	: 41.6	•	+ .	Shutoff solenoid Volt		12	
Check tolerance	. 41.0	-	+	KSB/AFB Volt	•	12	
ccm/10s	: 41.6	-	+		•	2250	
Shutoff solenoid Volt	: 12		<del>)</del> ,	Rated speed rpm Aneroid pressure hPa		1000	
KSB/AFB Volt	: 12	-	<del>]</del> i	Del. quantity			
Rated speed rpm	: 700	-	<del>}</del> .	cm3/1000 strokes Tolerance		36.5	
Aneroid pressure hPa	: 1000	-	‡ '	cm3/1000 strokes	:	1.3	

Check tolerance		+	Aneroid pressure			
cm3/1000s.	: 2.3	+	hPa	:	50	
Shutoff solenoid	: 12	†	Tolerance		0.5	
Volt	: 12	Ī	cm3/1000 strokes Check tolerance	:	0.5	
KSB/AFB Volt	: 12	I	cm3/1000s.	:	0.5	
KOD/AID VOCC		1	Check tolerance	•	0.5	
Rated speed rpm	: 500	1	cm3/1000s.	:	0.5	
Del. quantity		+	Shutoff solenoid			
cm3/1000 strokes	: 31.0	+	Volt	:	12	
Tolerance		†			4.4	
cm3/1000 strokes	: 2.5	t	KSB/AFB Volt	:	12	
Check tolerance	: 3.0	†	Datad aread non		700	
cm3/1000S. Shutoff solenoid	; 5.0	Ī	Rated speed rpm Aneroid pressure	:	700	
Volt	: 12	I	hPa		170	
VOCE	• ''	1	Del. quantity	•	110	
KSB/AFB Volt	: 12	<del>-</del>	cm3/1000 strokes	:	2.4	
	_	+	Check tolerance	•		
Rated speed rpm	: 1800	+	cm3/1000s.	:	1.0	
Aneroid pressure		+	Shutoff solenoid			
hPa	: 1000	+	Volt	:	12	
Del. quantity	74.5	†	1/0D / 1 ED		40	
cm3/1000 strokes	: 36.2	†	KSB/AFB Volt	:	12	
Tolerance cm3/1000 strokes	: 1.5	Ţ				
Check tolerance	. 1	I			····	
cm3/1000s.	: 2.3	Ţ	ELECTR. SHUTOFF			
Shutoff solenoid		<u> </u>	CONTROL LEVER, ID	LE ST	ГОР	
Volt	: 12	+				
		+	Rated speed rpm	:	485	
KSB/AFB Volt	: 12	+	Del. quantity			
		†	cm3/1000 strokes	:	1.5	
Rated speed rpm	: 700	†	Tolerance		4 -	
Aneroid pressure	: 1000	†	cm3/1000 strokes Check tolerance	:	1.5	
hPa Del. quantity	. 1000	Ī	cm3/1000s.	•	1.5	
cm3/1000 strokes	: 31.5	$\mathbf{I}$	Spread	•	1.5	
Tolerance	. 31.3	1	cm3/1000 strokes	:	5.0	
cm3/1000 strokes	: 1.5	<del> </del>		Ť		
Check tolerance		+	FULL-LOAD STOP CO	NTROL	LEVER	
cm3/1000s.	: 3.0	+				
Shutoff solenoid	40	+	Rated speed rpm	:	<b>48</b> 5	
Volt	: 12	†	Del. quantity		1 5	
MCD/AFD Welt	: 12	†	cm3/1000 strokes Tolerance	:	1.5	
KSB/AFB Volt	: 12	Ī	cm3/1000 strokes	•	1.5	
Rated speed rpm	: 1200	I	Spread	•	(.)	
Aneroid pressure	. 1200	$\perp$	cm3/1000 strokes	:	5.0	
hPa	: 1000	1	Check tolerance	•	3.0	
Del. quantity		<b>†</b>	cm3/1000s.	:	1.5	
cm3/1000 strokes	: 33.3	+	Spread			
Tolerance		+	cm3/1000 strokes	:	5.0	
cm3/1000 strokes	: 0.5	+				
Check tolerance	. 27	†				
cm3/1000s.	: 2.3	†				
Shutoff solenoid Volt	: 12	I				
VOLL	. 12	I	IDLE DELIVERY			
Rated speed rpm	: 700	1				
<del></del>		· ·				

speed rpm	:	485
ty		
okes	:	9.0
s d	:	2.5
	:	12
	:	12
	•	12
	PEND	ENI
1	•	
١	1CE	
		1000
٠		
	:	1000
	-	
	:	-11.0
	•	
		4.0
	:	4.0
e		, 6
	:	4.0
d		
	:	12
	:	12
	•	
٠ د د	\\/ <b>E</b> 1	DIFFERENCE
i (\*	1 V L L	DITT ENERGE
		1000
rpm	:	1000
ure		1000
	:	1000
<b>′</b> .		<u>.</u> .
kes	:	-0.6
kes	:	0.1
ce		
	:	0.1
oid	_	- • ·
. , <del></del>	•	12
	•	
		12
:	•	16
	CE	
EREN	ILE	
		4000
n	:	1000
е		
	:	1000
es	:	6.0
okes	:	1.0
e	•	
		1.0
	•	1.0
		12
•		16

Tolerance mm : +-0,1 Dimension KF mm : 5,4
Tolerance mm : +-0,2 Dimension MS mm : 0,9 Tolerance mm : +-0,2

MICROSWITCH SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 24,2..26,2

Control lever

position YB mm : 53,0..61,6

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.01.96 Test oil : ISO 4113

Part no. : 0 460 424 104 Pump designation : VE4/12F120OR572

Customer-spec. information Customer : MAN

Motor : D 0824 LFL 01 Power KW : 114.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle nolde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar : 3

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 850 Aneroid pressure hPa : 1200

Setting mm : 2.6 Tolerance mm : 0.2

KSB/AFB Volt : 12

#### SUPPLY PUMP PRESSURE

Rated speed rpm : 850
Aneroid pressure
hPa : 1200

Setting hPa : 6.7 Tolerance hPa : 0.3

KSB/AFB Volt : 12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1000 Aneroid pressure 1200 hPa Del quantity cm3/1000 strokes : 108.0 Tolerance cm3/1000 strokes : 0.5 Spread 4.0 cm3/1000 strokes : Check tolerance cm3/1000s.4.5 KSB/AFB Volt 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 61.0
Tolerance
cm3/1000 strokes : 0.5
Check tolerance
cm3/1000s. : 4.5

KSB/AFB Volt : 12

# IDLE SETTING

Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 15.0
Tolerance
cm3/1000 strokes : 2.0
Spread

cm3/1000 strokes :

6.0

Check tolerance cm3/1000S.	: 6.5			
MCD/AED Vol+	: 12	+ Tolerance mm + Check	: 0.4	t
KSB/AFB Volt	. 12	tolerance mm	: 0.7	7
FULL-LOAD SPEED R	EGULATION	KSB/AFB Vol	t : 12	2
Rated speed rpm Pressure hPa	: 1300 : 1200	Rated speed Aneroid pres		
Del. quantity cm3/1000 strokes		hPa hPa	: 1200	)
Tolerance		SV travel mm		
cm3/1000 strokes		+ Tolerance mm + Check		
KSB/AFB Volt	: 12	+ tolerance mm +	: 0.4	<b>+</b>
STARTING FUEL DEL	IVERY	KSB/AFB Vol	t : 12	
Rated speed rpm Del. quantity	: 100	SUPPLY PUMP	PRESSURE CHARACT	ERISTIC
cm3/1000 strokes Tolerance	: 130.0	Rated speed Aneroid pres		
cm3/1000 strokes	: 30.0	hPa Supply pomp	: 1200	)
KSB/AFB Volt	: 12	pressure bar Tolerance hP	: 8.4	
SET GRADUATED STAI CONTROL LEVER, IDE		\$		
		+		
Rated speed rpm Del. quantity	: 100	+ Rated speed + Aneroid pres		
cm3/1000 strokes Tolerance	: 45.0	+ hPa + Supply pomp	: 1200	Ì
cm3/1000 strokes	: 1.0	+ pressure bar + Tolerance hP	: 5.2	
KSB/AFB Volt	: 12	+		
		+ KSB/AFB Vol		•
	,	OVERFLOW QUAI	YTITY	
INJECTION-PUMP TES	ST SPECIFICA	ATIONS + Rated speed + Overflow quar		
TIMING DEVICE CHAP	RACTERISTIC	ccm/10s Tolerance	: 63.8	
Rated speed rpm Aneroid pressure	: 950	ccm/10s	: 22.2	
hPa	: 1200	Check tolerand ccm/10s	nce : 22.2	
SV travel mm Tolerance mm	: 3.8 : 0.4	+ KSB/AFB Vol-		
Check tolerance mm	: 0.7	Rated speed		
KSB/AFB Volt	: 12	Aneroid press		
		+ Overflow quar	ntity	
Rated speed rpm Aneroid pressure	: 750	+ ccm/10s + Tolerance	: 97.2	
hPa	: 1200	+ ccm/10s	: 41.6	

			+	Tolerance		
Check tolerance			+	cm3/1000 strokes	:	0.5
ccm/10s	:	41.6	+	Check tolerance		2.5
MOD /AED Wold		12	†	cm3/1000s.	:	2.5
KSB/AFB Volt	:	12	Ī	KSB/AFB Volt	:	12
DELIVERY AND BREA	KΔW	AY CHARACTERISTIC	I	NODIALD VOCE	•	12
ACCIACIO VIAN DIVEN	ux/m	AL CHARACTERIOTIC	1	Rated speed rpm	:	1200
Rated speed rpm	:	1300	1	Aneroid pressure	-	,
Aneroid pressure			+	hPa	:	1200
hPa	:	1200	+	Del. quantity		400 0
Del. quantity	_	70.0	†	cm3/1000 strokes	:	103.5
cm3/1000 strokes Tolerance	:	70.0	†	Tolerance cm3/1000 strokes	:	2.5
cm3/1000 strokes	:	3.0	I	Check tolerance	•	2.5
Check tolerance	•	3.0	1	cm3/1000s.	:	4.0
cm3/1000s.	:	8.5	1			
			+	KSB/AFB Volt	:	12
KSB/AFB Volt	:	12	+			
Datasi sussai sus		1/00	†	Rated speed rpm	:	700
Rated speed rpm Aneroid pressure	:	1400	<u>†</u>	Aneroid pressure hPa		1200
hPa	•	1200	I	Del. quantity	•	: 200
Del. quantity	•	1200	1	cm3/1000 strokes	:	112.5
cm3/1000 strokes	:	7.5	+	Tolerance		
Check tolerance			+	cm3/1000 strokes	:	2.5
cm3/1000S.	:	7.5	+	Check tolerance		, 0
MCD (AFD Mal+		12	†	cm3/1000s.	:	4.0
KSB/AFB Volt	•	12	Ī	KSB/AFB Volt	:	12
Rated speed rpm	:	1450	I	KSB/AIB VOCC	•	12
Aneroid pressure	•	, ,50	1	Rated speed rpm	:	850
hPa	:	1200	+	Aneroid pressure		
Del. quantity			+	hPa	:	1200
cm3/1000 strokes	:	1.5	†	Del. quantity		444.0
Tolerance cm3/1000 strokes	:	1.5	†	cm3/1000 strokes Tolerance	:	114.0
Check tolerance	•	1.5	I	cm3/1000 strokes	:	2.5
cm3/1000s.	:	1.5	1	Check tolerance	•	<b>C.</b> 5
	-		+	cm3/1000s.	:	4.0
KSB/AFB Volt	:	12	+			
		4750	+	KSB/AFB Volt	:	12
Rated speed rpm	:	1350	†	Dated aread non		550
Aneroid pressure hPa		1200	I	Rated speed rpm Aneroid pressure	:	550
Del. quantity	•	1200	1	hPa	:	1200
cm3/1000 strokes	:	35.0	+	Del. quantity		
Tolerance			+	cm3/1000 strokes	:	114.0
cm3/1000 strokes	:	20.0	+	Tolerance		
Check tolerance	_	20.0	†	cm3/1000 strokes Check tolerance	:	4.5
cm3/1000s.	:	20.0	Ī	cm3/1000s.	:	6.0
KSB/AFB Volt	:	12	Į	(11157 10003.	•	0.0
	·		+	KSB/AFB Volt	:	12
Rated speed rpm	:	550	+			
Aneroid pressure		400	+	Rated speed rpm	:	1000
hPa	:	400	†	Aneroid pressure		1200
Del. quantity cm3/1000 strokes	:	84.0	Ī	hPa Del. quantity	•	1400
בשאטון לשווט פנוטעפט	•	04.0	Ţ	cm3/1000 strokes	:	108.0
			•			

Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. 2.5 MECHANICAL SHUTOFF 1200 Rated speed rpm Aneroid pressure 1200 hPa Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance 1.5 cm3/1000s.KSB/AFB Volt 12 IDLE DELIVERY Rated speed rpm 500 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 1.5 KSB/AFB Volt 12 START TRANSITION 370 Rated speed rpm Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 20.0 12 KSB/AFB Volt Rated speed rpm 270 Del. quantity cm3/1000 strokes : 95.0 Tolerance

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,4
Tolerance mm : +-0,2
MS1 dimension mm : 1,5
Tolerance mm : +0,15/-0,1
KSB travel mm : 7,1

MICROSWITCH

SET

mm : GST 71,9

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 36,9..42,1

End of test-specification sheet

ASSEMBLY AND ADJUSTMENT DIMENSIONS

:

15.0

12

cm3/1000 strokes :

KSB/AFB Volt

		1				
BOSCH INJ. PUMP T	EST SPECIFICATIONS	+	Rated speed rpm	:	1600	
Note remarks		Ī	Setting mm		2 0	
More Lemarks		I	Setting mm Tolerance mm	•	0.7	
Refer to Service	Info for test and	I	Shutoff solenoid	•	0.1	
adjustment instru		I	Volt		12	
See microcard(s)		I	VOCC	•	12	
see microcard(s)	W400/	I	SUPPLY PUMP PRESS	SURE		
Edition	: 17.10.95	I	SOFFER FOR FRES	30116		
Test oil	: ISO 4113	1	Rated speed rpm		1100	
1636 016	. 130 4113	I	Nated Speed Pill	•	1100	
Part no.	· 0 460 414 109	I	Setting hPa		6.3	
	: VE4/11F2000R573	1	Setting hPa Tolerance hPa	•	0.3 n 3	
rump designation	: 424711120001313	Ι	Shutoff solenoid		0.5	
		_ I	Volt		12	
Customer-spec. in	formation	Ī	VOCE	•	14	
Customer -spec. III	• TVECO	Ι	FULL-LOAD DELIV.	いてて	ANUT PANST	DDECCHDE
Customer Motor	• 84%U UZ ZZUU	T	TOLL LUAD DELIV.	W T ( )	1001 00031	FRESSURE
motor.	. 0140.07.3700	†	Dotad amond are		1100	
		†	Rated speed rpm		1100	
TECT DENOU DECUTE	EMENTO	<del>-</del> †	Rated speed rpm		200	
TEST BENCH REQUIR	EMEIN I 2	†	Del. quantity cm3/1000 strokes	_	/0.0	
0-136		†		:	48.U	
Calibrating-oil		†	Del. quantity		77.0	
return	, =	†	cm3/1000 strokes	:	33.0	
temperature °C Tolerance °C	: 45	†	Tolerance			
Tolerance °C	: 7	+	cm3/1000 strokes	:	0.5	
		+	Tolerance			
Overflow		†	cm3/1000 strokes	:	0.5	
restriction mm	: 0.75	+	Spread			
		+	cm3/1000 strokes		3.5	
		+	Shutoff solenoid			
Inlet press. bar		+	Volt	:	12	
Tolerance bar	: 0.05	+	Shutoff solenoid			
		+	Volt	:	12	
		+	Check tolerance			
Test nozzle holde		+	cm3/1000s.	:	4.5	
assembly		+				
•		1	IDLE SETTING			
Opening pressure		1				
bar	: 250	1	Rated speed rpm	:	350	
Tolerance bar	: 3	1	Del. quantity	-		
	- <del>-</del>	1	cm3/1000 strokes	:	12.5	
		1	Tolerance	-		
Test lines	: 1 680 750 073	1	cm3/1000 strokes	:	2.0	
TOUC CITIOS		1	Shutoff solenoid	•	0	
Outside diameter	• 6.00	1	Volt	•	12	
Jacorde Grameter	. 0.00	1	Spread	•	1.2	
x inside diameter	: 2.00	I	cm3/1000 strokes		3.0	
x length mm	: 450	Ι	Check tolerance	•	5.0	
v rendrii imi	. 700	Ι	cm3/1000s.	•	6.5	
		_ I	CHIS/ FOCOS.	•	0.5	
DEMARKS		I				
REMARKS		T	FULL-LOAD SPEED R	ECIU	ATTON	
		Ī	FULL-LUMP SPEED N	EUUL	VI TOIA	
		T	Dated chood and		2200	
		_	Rated speed rpm	•	44UU	
TALLECTION DUMP OF	TING VALUES	_ †	Del. quantity		30.0	
INJECTION PUMP SET	I TIAR ANTOES	Ť	cm3/1000 strokes	•	30.0	
		†	Tolerance		2.0	
TIMING DEVICE TRAV	EL	+	cm3/1000 strokes	:	2.0	

Shutoff solenoid		1
Volt	: 12	Rated speed rpm : 2000
		+ Supply pomp
STARTING FUEL DEL	_IVERY	pressure bar : 8.7
		† Tolerance hPa : 0.3
Rated speed rpm	: 100	+ Shutoff solenoid
Del. quantity	7r 0	+ Volt : 12
cm3/1000 strokes	: 75.0	Dated aread area . FOO
Tolerance cm3/1000 strokes	: 20.0	Rated speed rpm : 500 Supply pomp
Shutoff solenoid		pressure bar : 4.3
Volt	: 12	Tolerance hPa : 0.3
		+ Shutoff solenoid
		+ Volt : 12
		+
		+ Rated speed rpm : 550
TALLECTION DUMP TO	TOT COCCITIONS	+ Supply pomp
TIMPECITON-HOWL IF	EST SPECIFICATIONS	† pressure bar : 7.7 † Tolerance hPa : 0.5
TIMING DEVICE CHA	ADACTEDISTIC	<pre>+ Tolerance hPa : 0.5 + Shutoff solenoid</pre>
TAMENO DESTUE CHA	AUWOLEKTOLIC	+ Volt : 12
Rated speed rpm	: 1800	+
	. ,	↓ KSB/AFB Volt : 12
SV travel mm	: 3.9	+
Tolerance mm	: 0.3	+ OVERFLOW QUANTITY
Check		+
tolerance mm	: 0.7	+ Rated speed rpm : 500
Shutoff solenoid	. 10	+ Overflow quantity
Volt	: 12	ccm/10s : 111.1 Tolerance
Rated speed rpm	: 1200	+ ccm/10s : 22.2
nacea speca i piii		1
SV travel mm	: 0.7	† Check tolerance
Tolerance mm	: 0.3	+ ccm/10s : 22.2
Check		+ Shutoff solenoid
tolerance mm	: 0.7	† Volt : 12
Shutoff solenoid	. 13	t Dated aread area 2000
Volt	: 12	<ul><li>Rated speed rpm : 2000</li><li>Overflow quantity</li></ul>
Rated speed rpm	: 550	+ ccm/10s : 138.8
Mateu speed (pill	. ))(	Tolerance
SV travel mm	: 2.5	+ ccm/10s : 55.5
Tolerance mm	: 1.2	+
Check		Check tolerance
tolerance mm	: 1.5	+ ccm/10s : 55.5
Shutoff solenoid	4.5	+ Shutoff solenoid
Volt	: 12	+ Volt : 12
KSB/AFB Volt	: 12	t DELIVERY AND BREAKAWAY CHARACTERISTIC
NOO/AFB VOLL	. 16	T DEELVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm	: 2000	Rated speed rpm : 2200
		Del. quantity
SV travel mm	: 4.5	+ cm3/1000 strokes : 30.0
Tolerance mm	: 0.3	+ Tolerance
Check		+ cm3/1000 strokes : 2.0
tolerance mm	: 0.7	+ Check tolerance
Shutoff solenoid	: 12	+ cm3/1000s. : 4.5 + Shutoff solenoid
Volt	: 12	+ Shutoff solenoid + Volt : 12
SUPPLY PLIMP PRESS	URE CHARACTERISTIC	1
DULLET TOPE TREBE	ALL ALIMINAL PLANTAL TA	•

Rated speed rpm	•	2150		+			
Del. quantity				+	Rated speed rpm	:	350
cm3/1000 strokes Tolerance	:	41.0		‡	Del. quantity cm3/1000 strokes	:	1.5
cm3/1000 strokes Check tolerance	;	4.0	,	<u>†</u>	Tolerance cm3/1000 strokes	:	1.5
cm3/1000s.	:	6.0		+	Check tolerance	•	
Shutoff solenoid Volt	:	12		‡	cm3/1000s.	:	1.5
Rated speed rpm	:	2350		İ	FULL-LOAD STOP CO	NTROL	. LEVER
Del. quantity				+	Rated speed rpm	:	350
cm3/1000 strokes Tolerance	:	1.5		‡	Del. quantity cm3/1000 strokes	:	1.5
cm3/1000 strokes Check tolerance	:	1.5		1	Tolerance cm3/1000 strokes	•	1.5
cm3/1000s.	:	1.5		F	Check tolerance	•	
Shutoff solenoid Volt	:	12		‡	cm3/1000s.	:	1.5
Aneroid pressure				Ì	IDLE DELIVERY		
hPa	:			Ŧ	Rated speed rpm	:	450
LDA/				‡	Del. quantity cm3/1000 strokes	:	1.5
HBA stroke mm	:	9.0		Ì	Tolerance cm3/1000 strokes	:	1.5
Rated speed rpm	:	2000		Ŧ	Check tolerance	•	
Del. quantity cm3/1000 strokes	:	47.0	•	‡	cm3/1000S. Shutoff solenoid	:	1.5
Tolerance cm3/1000 strokes		2.5	-	Ì	Volt	:	12
Check tolerance	•			Ŧ	Rated speed rpm	:	325
cm3/1000S. Shutoff solenoid	:	3.5		‡	Del. quantity cm3/1000 strokes	:	24.0
Volt	:	12	-	+	Tolerance cm3/1000 strokes		5.0
Rated speed rpm	:	1500	-	F	Check tolerance	•	
Del. quantity cm3/1000 strokes	:	51.5	-	<u> </u>	cm3/1000S. Shutoff solenoid	:	6.0
Tolerance cm3/1000 strokes		2.5	-	l	Volt	:	12
Check tolerance	•		-				
cm3/1000S. Shutoff solenoid	:	3.5	-	-			
Volt	:	12	-	ŀ			
Rated speed rpm Del. quantity	:	500	-		START TRANSITION		
cm3/1000 strokes	:	33.0	-	}	Rated speed rpm	:	450
Tolerance cm3/1000 strokes	:	0.5	-	F	Del. quantity cm3/1000 strokes	:	25.0
Check tolerance cm3/1000s.	:	3.5	-		Tolerance cm3/1000 strokes	:	15.0
Shutoff solenoid		12	-	-	Shutoff solenoid Volt		12
Volt	•	12	<del>-</del>		VOCC	•	12
			<del></del>	<u> </u>	Rated speed rpm	:	300
ELECTR. SHUTOFF CONTROL LEVER, ID	E ¢	TOP	-	_	Del. quantity cm3/1000 strokes	:	75.0
CONTROL LEVER, 10	_E 3	IUF	٦	ľ	CIIIJ/ TOUG SCTORES	•	15.0

Tolerance

cm3/1000 strokes :

20.0

Shutoff solenoid

Volt

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm

9.0

Dimension K mm

: 3,5

Tolerance mm

: +0,1 : 8,4

Dimension KF mm

Tolerance mm

: +-0,2

Dimension MS mm

: 1,5

Tolerance mm

: +-0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm

: 36,8..40,9

Control lever

position YB mm

: 44,4..49,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.01.96 Test oil : ISO 4113

: 0 460 426 233 Part no. Pump designation : VE6/12F1100R579

Customer-spec. information

: FNH-GEOTECH Customer : 7.5 L NA/DI Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

0.75 restriction mm

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

**REMARKS** 

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,0 Tolerance mm : +-0,2

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 600

Setting mm 1.6 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 600

Setch. hPa 5.5 Tolerance hPa 0.2

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

0.5

600 Rated speed rpm 800 Rated speed rpm

Del. quantity

66.5 cm3/1000 strokes :

Del. quantity

cm3/1000 strokes : 69.5 Tolerance

cm3/1000 strokes :

Tolerance 0.5 cm3/1000 strokes :

Spread

cm3/1000 strokes : 5.0

Spread

cm3/1000 strokes : 5.0

Shutoff solenoid

Volt 12

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 5.0

IDLE SETTING

375 Rated speed rpm

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

Spread

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.	: 5.0	†	Rated speed rpm Supply pomp	: 1	100
FULL-LOAD SPEED F	REGULATION	†	pressure bar Tolerance hPa Shutoff solenoid	:	7.8 0.3
Rated speed rpm Del. quantity	: 1180	$\frac{1}{1}$	Volt	:	12
cm3/1000 strokes Tolerance	: 33.0	<u> </u>	Rated speed rpm Supply pomp	:	475
cm3/1000 strokes Shutoff solenoid		+	pressure bar Tolerance hPa	:	4.9 0.3
Volt	: 12	‡	Shutoff solenoid Volt	:	12
STARTING FUEL DEL		‡	OVERFLOW QUANTITY		
Rated speed rpm Del. quantity	: 100	‡	Rated speed rpm	: 1	100
cm3/1000 strokes Tolerance	: 85.0	‡	Overflow quantity ccm/10s		138.8
cm3/1000 strokes Shutoff solenoid	: 25.0	‡	Tolerance ccm, 10s	:	41.6
Volt	: 12	‡	Check tolerance		
		‡	ccm/10s Shutoff solenoid	:	41.6
•			Volt	:	12
INJECTION-PUMP TE	ST SPECIFICATION	ONS ‡	Rated speed rpm Overflow quantity	:	<del>1</del> 75
TIMING DEVICE CHA	ARACTERISTIC	<u>†</u>	ccm/10s Tolerance	•	97.2
Rated speed rpm	: 750	‡	ccm/10s	:	22.2
SV travel mm Tolerance mm	: 2.3 : 0.4	+	Check tolerance ccm/10s	:	22.2
Check tolerance mm Shutoff solenoid	: 0.7	<del>-</del>	Shutoff solenoid Volt	:	12
Volt	: 12	Ŧ	DELIVERY AND BREAK	AWAY (	CHARACTERISTIC
Rated speed rpm	: 500	Ī	Rated speed rpm Del. quantity	: 11	80
SV travel mm Tolerance mm	: 1.2 : 0.4	<u> </u>	cm3/1000 strokes Tolerance	:	33.0
Check tolerance mm	: 0.7	<u> </u>	cm3/1000 strokes Check tolerance	:	3.0
Shutoff solenoid Volt	: 12	1	cm3/1000s. Shutoff solenoid	:	8.0
	: 1100	<del>-</del>	Volt	:	12
Rated speed rpm		Ŧ	Rated speed rpm	: 11	50
SV travel mm Tolerance mm	: 2.5 : 0.4	Ŧ	Del. quantity cm3/1000 strokes	:	50.5
Check tolerance mm Shutoff solenoid	: 0.7	<u> </u>	Tolerance cm3/1000 strokes Check tolerance	:	5.0
Volt	: 12	$\frac{1}{1}$	cm3/1000s. Shutoff solenoid	:	5.0
SUPPLY PUMP PRESS	URE CHARACTERIS	STIC +	Volt	:	12

Datad assad sun		1240	-	<del> -</del>
Rated speed rpm Del. quantity	:	1260		- ELECTR. SHUTOFF
cm3/1000 strokes Tolerance	:	1.5		CONTROL LEVER, IDLE STOP
cm3/1000 strokes Check tolerance	:	1.5	-	- Rated speed rpm : 375 - Del. quantity
cm3/1000s. Shutoff solenoid	:	1.5	-	- cm3/1000 strokes : 1.5 - Tolerance
Volt	:	12	-	- cm3/1000 strokes : 1.5 - Check tolerance
Aneroid pressure hPa	:		-	- cm3/1000s. : 1.5
LDA/			-	FULL-LOAD STOP CONTROL LEVER
HBA stroke mm	:	5.0	-	Rated speed rpm : 375 Del. quantity
Rated speed rpm Del. quantity			-	cm3/1000 strokes : 1.5 - Tolerance
cm3/1000 strokes Tolerance		66.0	-	cm3/1000 strokes : 1.5
cm3/1000 strokes Check tolerance	•	2.0	-	IDLE DELIVERY
cm3/1000s. Shutoff solenoid	:	3.5 12	-	Rated speed rpm : 460 Del. quantity cm3/1000 strokes : 1.5
Volt Rated speed rpm	:	500	<del>-</del>	- cm3/1000 strokes : 1.5 - Tolerance - cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes		56.0	-	- Check tolerance - cm3/1000s. : 1.5
Tolerance cm3/1000 strokes		6.0	- -	- Shutoff solenoid - Volt : 12
Check tolerance cm3/1000s.	•	6.0		
Shutoff solenoid Volt	:	12	<del>-</del>	<u>-</u> -
Rated speed rpm	:	475	-	<u> </u>
Del. quantity cm3/1000 strokes	:	53.5	-	- START TRANSITION
Tolerance cm3/1000 strokes	:	3.0	-	- Rated speed rpm : 440 - Del. quantity
Check tolerance cm3/1000s.	:	5.0	1	- cm3/1000 strokes : 60.0 - Tolerance
Shutoff solenoid Volt	:	12	<del>-</del>	- cm3/1000 strokes : 15.0 - Shutoff solenoid
Rated speed rpm	:	800	-	- Volt : 12 -
Del. quantity cm3/1000 strokes	:	69.5	-	Rated speed rpm : 250
Tolerance cm3/1000 strokes Check tolerance	:	0.5		- Del. quantity - cm3/1000 strokes : 115.0 - Tolerance
cm3/1000s. Shutoff solenoid	:	3.0		- cm3/1000 strokes : 25.0 - Shutoff solenoid
Volt	:	12		Volt : 12
			+	ACCEMBLY AND AD HIGHWAY DAMENDATON

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5.0 Dimension K mm : 3,7

Tolerance mm : 5,7
Tolerance mm : +-0,1
Dimension KF mm : 6,4
Tolerance mm : +-0,2
Dimension MS mm : 1,3
Tolerance mm : +-0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 32,8..34,8

Control lever

position YB mm : 39,6..46,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 31.01.96 Edition Test oil : ISO 4113

: 0 460 426 238 Part no. Pump designation : VE6/12F1100R579-1

Customer-spec. information

Customer Motor

: FNH-GEOTECH

: 7.5 L TC

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar 250 Tolerance bar

: 1 680 750 000 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm 840 :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0 Tolerance mm : +-0.2

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

800 Rated speed rpm :

Setting inm 1.2 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rom 800

Setting hPa 6.2 Tolerance hPa 0.2 Shutoff solenoid 12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

600 Rated speed rpm Rated speed rpm 1050 Del. quantity cm3/1000 strokes : 61.5

Del. quantity cm3/1000 strokes : 62.0

Tolerance cm3/1000 strokes : 0.5

Tolerance cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 5.0 Spread

5.0 cm3/1000 strokes : Shutoff solenoid

12 Volt Shutoff solenoid

Volt 12 Check tolerance

cm3/1000s. 5.0

IDLE SETTING

375 Rated speed rpm

Del. quantity 15.0 cm3/1000 strokes : Tolerance

cm3/1000 strokes :

0.5 Shutoff solenoid 12

Volt Spread cm3/1000 strokes : 5.0

Check tolerance			†	4400	
cm3/1000s.	:	5.0	+ Rated speed rpm : + Supply pomp	1100	
			+ pressure bar :	7.5	
FULL-LOAD SPEED F	REGUL	_ATION	† Tolerance hPa :	0.3	
			+ Shutoff solenoid		
Rated speed rpm	:	1180	† Volt :	12	
Del. quantity cm3/1000 strokes		33.0	Raied speed rpm :	475	
Tolerance	•	33.0	+ Supply pomp	47.5	
cm3/1000 strokes	:	3.0	+ pressure bar :	4.9	
Shutoff solenoid	•		+ Tolerance hPa :	0.3	
Volt	:	12	+ Shutoff solenoid		
			+ Volt :	12	
STARTING FUEL DEL	IVER	?Y	+		
			+ OVERFLOW QUANTITY		
Rated speed rpm	:	100	†	4400	
Del. quantity		05.0	+ Rated speed rpm :	1100	
cm3/1000 strokes	:	95.0	+ Overflow quantity	170 0	
Tolerance	_	25.0	+ ccm/10s :	138.8	
cm3/1000 strokes	:	25.0	Tolerance ccm/10s :	/.1 K	
Shutoff solenoid Volt		12	† ccm/10s :	41.6	
VOCE	•	16	Check tolerance		
			+ ccm/10s :	41.6	
			+ Shutoff solenoid	41.0	
			+ Volt :	12	
		<del></del>	<del></del> +		
INJECTION-PUMP TE	ST S	PECIFICATIONS	+ Rated speed rpm :	475	
			+ Overflow quantity		
TIMING DEVICE CHA	ARACT	ERISTIC	+ ccm/10s :	97.2	
<b>5</b>		000	+ Tolerance	22.2	
Rated speed rpm	:	900	+ ccm/10s :	22.2	
SV travel mm		1.8	Check tolerance		
Tolerance mm	:	0.4	+ ccm/10s :	22.2	
Check	•		+ Shutoff solenoid		
tolerance mm	:	0.7	+ Volt :	12	
Shutoff solenoid			+		
Volt	:	12	+ DELIVERY AND BREAKA	WAY CHARACTERIST	IC
			†	4400	
Rated speed rpm	:	600	+ Rated speed rpm :	1180	
01/ 4		0 /	+ Del. quantity		
SV travel mm			+ cm3/1000 strokes :	77 1	
Tolerance mm	:	0.4		33.0	
	:	0.4	+ Tolerance		
Check	:	0.4	Tolerance cm3/1000 strokes :		
Check tolerance mm	: :		Tolerance cm3/1000 strokes : Check tolerance	3.0	
Check tolerance mm Shutoff solenoid	:	0.4	Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :		
Check tolerance mm	:	0.4	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid	3.0 8.0	
Check tolerance mm Shutoff solenoid Volt	:	0.4 0.7 12	Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	3.0	
Check tolerance mm Shutoff solenoid	:	0.4 0.7 12	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid Volt:	3.0 8.0 12	
Check tolerance mm Shutoff solenoid Volt		0.4 0.7 12	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid	3.0 8.0 12	
Check tolerance mm Shutoff solenoid Volt Rated speed rpm		0.4 0.7 12 1100	Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Shutoff solenoid Volt : Rated speed rpm :	3.0 8.0 12	
Check tolerance mm Shutoff solenoid Volt Rated speed rpm SV travel mm		0.4 0.7 12 1100 2.4 0.4	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance	3.0 8.0 12 1150 50.5	
Check tolerance mm Shutoff solenoid Volt Rated speed rpm SV travel mm Tolerance mm Check tolerance mm		0.4 0.7 12 1100 2.4	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes:	3.0 8.0 12 1150 50.5	
Check tolerance mm Shutoff solenoid Volt  Rated speed rpm  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid		0.4 0.7 12 1100 2.4 0.4 0.7	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Shutoff solenoid Volt: Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance	3.0 8.0 12 1150 50.5 5.0	
Check tolerance mm Shutoff solenoid Volt  Rated speed rpm  SV travel mm Tolerance mm Check tolerance mm		0.4 0.7 12 1100 2.4 0.4	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Shutoff solenoid Volt:  Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.	3.0 8.0 12 1150 50.5	
Check tolerance mm Shutoff solenoid Volt  Rated speed rpm  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt	: :	0.4 0.7 12 1100 2.4 0.4 0.7 12	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid Volt:  Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Shutoff solenoid	3.0 8.0 12 1150 50.5 5.0	
Check tolerance mm Shutoff solenoid Volt  Rated speed rpm  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid	: :	0.4 0.7 12 1100 2.4 0.4 0.7 12	Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Shutoff solenoid Volt:  Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.	3.0 8.0 12 1150 50.5 5.0	

			1	
Rated speed rpm	:	1260	Į	
Del. quantity				
cm3/1000 strokes Tolerance	:	1.5	+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP	
cm3/1000 strokes	:	1.5	+ CONTROL LEVERY IDEE STOP	
Check tolerance			Rated speed rpm : 375	
cm3/1000S. Shutoff solenoid	:	1.5	+ Del. quantity + cm3/1000 strokes : 1.5	
Volt	:	12	Tolerance	
			cm3/1000 strokes : 1.5	
Rated speed rpm	:	1100	+ Check tolerance + cm3/1000s. : 1.5	
Del. quantity cm3/1000 strokes	:	59.5	T (1137 10005. : 1.3	
Tolerance			+	
cm3/1000 strokes	:	2.0	+ IDLE DELIVERY	
Check tolerance cm3/1000s.	•	3.5	Rated speed rpm : 450	
Shutoff solenoid	•		+ Del. quantity	
Volt	:	12	- cm3/1000 strokes : 1.5	
Rated speed rpm	:	500	+ Tolerance + cm3/1000 strokes : 1.5	
Del. quantity	•	500	Check tolerance	
cm3/1000 strokes	:	53.0	- cm3/1000s. : 1.5	
Tolerance		6.0	+ Shutoff solenoid + Volt : 12	
cm3/1000 strokes Check tolerance	•	6.0	† vott : 12	
cm3/1000s.	:	6.0	+	
Shutoff solenoid		40	+	
Volt	:	12	İ	
Rated speed rpm	:	800	Ţ	
Del. quantity		, <del></del>	+ START TRANSITION	
cm3/1000 strokes Tolerance	:	67.5	+ + Rated speed rpm : 350	
cm3/1000 strokes	:	2.0	+ Del. quantity	
Check tolerance			+ cm3/1000 strokes : 80.0	
cm3/1000s.	:	3.5	† Tolerance	
Shutoff solenoid Volt	•	12	+ cm3/1000 strokes : 15.0 + Shutoff solenoid	
<b>1011</b>	•	, , ,	+ Volt : 12	
Rated speed rpm	:	475	†	
Del. quantity cm3/1000 strokes	•	53.5	Rated speed rpm : 200	
Tolerance	•		+ Del. quantity	
cm3/1000 strokes	:	3.0	+ cm3/1000 strokes : 120.0	
Check tolerance cm3/1000s.		4.5	Tolerance cm3/1000 strokes : 25.0	
Shutoff salenaid	•	4.7	Shutoff solenoid	
Volt	:	12	+ Volt : 12	
Dated annot and		1050	<u> </u>	
Rated speed rpm Del. quantity	:	טכטו	ASSEMBLY AND ADJUSTMENT DIMENSIONS	
cm3/1000 strokes	:	62.0	+	
Tolerance		0 5	→ Dimension K mm : 3,7     → Tolerance mm : +-0,1	
cm3/1000 strokes Check tolerance	•	0.5	Tolerance mm : +-0,1 Dimension KF mm : 6,4	
cm3/1000s.	:	3.0	+ Tolerance mm : +-0,2	
Shutoff solenoid	_	40	Dimension MS mm : 1,4	
Volt	:	12	+ Tolerance mm : +-0,2	

CONTROL LEVER POSITION SET

Control lever position YA mm : 32,8..34,8

Control lever

position YB mm : 39,7..46,3

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 01.04.95 Edition Test oil : ISO 4113

: 0 460 416 078 Part no. Pump designation : VE6/11F1150R586

Customer-spec. information : IVECO-FIAT Customer : 8065.05.240 Motor Power KW 83.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature \*C 55 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

bar 250 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : Setting mm 2.4 Tolerance mm 0.2 Shutoff solenoid 12 Volt

# SUPPLY PUMP PRESSURE

Rated speed rpm : 800 Setting hPa 6.5 Tolerance hPa 0.3 Shutoff solenoid Volt 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

700

800

Del. quantity		
cm3/1000 strokes	:	64.0
Tolerance		
cm3/1000 strokes	:	0.5
Spread		
cm3/1000 strokes	:	3.5
Shutoff solenoid		
Volt	:	12

Rated speed rpm :

# IDLE SETTING

Rated speed rpm Del. quantity	:	300
cm3/1000 strokes	:	12.0
Tolerance cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	12
Spread cm3/1900 strokes	:	3.5
Check tolerance cm3/1000s.	:	4.0

# FULL-LOAD SPEED REGULATION

Rated speed rpm 1250 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : 3.0 Shutoff solenoid Volt 12

# STARTING FUEL DELIVERY

Rated speed rpm 100 Del. quantity cm3/1000 strokes : 100.0

Tolerance cm3/1000 strokes	:	30.0	‡	Rated speed rpm Overflow quantity		500	
Shutoff solenoid		10	+	ccm/10s	:	63.8	
Volt	•	12	Ī	Tolerance ccm/10s	:	22.2	
			+	Check tolerance ccm/10s	:	22.2	
INJECTION-PUMP TE	ST	SPECIFICATIONS	+	Shutoff solenoid Volt	:	12	
TIMING DEVICE CHA	RAC	TERISTIC	†	DELIVERY AND BREA	KAWA	AY CHARACTI	ERISTIC
Rated speed rpm	:	700	Ī	Rated speed rpm Del. quantity	:	1250	
SV travel mm	:	1.4	I	cm3/1000 strokes	:	25.0	
Tolerance mm	;	0.4	+	Tolerance			
Check tolerance mm	:	0.9	‡	cm3/1000 strokes Check tolerance	:	3.0	
Shutoff solenoid		40	+	cm3/1000s.	:	6.0	
Volt	:	12	İ	Shutoff solenoid Volt		12	
Rated speed rpm	:	1150	Į	VOCC	٠	16	
·			+	Rated speed rpm	:	1270	
SV travel mm	:	3.3	+	Del. quantity		44.0	
Tolerance mm Check	:	0.4	†	cm3/1000 strokes Shutoff solenoid	:	16.0	
tolerance mm Shutoff solenoid	:	0.7	Ī	Volt	:	12	
Volt	:	12	1	Rated speed rpm	:	1350	
SUPPLY PUMP PRESS	URE	CHARACTERISTIC	++	Del. quantity cm3/1000 strokes	:	1.5	
<b></b>		4450	+	Tolerance		4 5	
Rated speed rpm Supply pomp	:	1150	‡	cm3/1000 strokes Check tolerance	:	1.5	
pressure bar	:	8.0 0.3	†	cm3/1000S. Shutoff solenoid	:	1.5	
Tolerance hPa Shutoff solenoid	•	0.3	I	Volt		12	
Volt	:	12	1	1011	•		
			+	Rated speed rpm	:	1150	
Rated speed rpm	:	500	†	Del. quantity		E0 0	
Supply pomp pressure bar	•	5.0	Ī	cm3/1000 strokes Tolerance	÷	58.0	
Tolerance hPa	:	0.3	Ţ	cm3/1000 strokes	:	1.5	
Shutoff solenoid			+	Check tolerance			
Volt	:	12	†	cm3/1000S. Shutoff solenoid	:	3.5	
OVERFLOW QUANTITY			+	Volt	:	12	
Rated speed rpm	:	1150	Ī	Rated speed rpm	:	500	
Overflow quantity			+	Del. quantity	+		
ccm/10s	:	97.2	+	cm3/1000 strokes	:	62.5	
Tolerance ccm/10s		41.6	†	Tolerance cm3/1000 strokes		1.5	
CUM/ TUS	·	41.0	I	Check tolerance	•	1.3	
Check tolerance			+	cm3/1000s.	:	3.5	
ccm/10s	:	41.6	+	Shutoff solenoid		4.0	
Shutoff solenoid		12	1	Volt	:	12	
Volt	•	12	Į	Rated speed rpm	:	700	

<b>.</b>			1 - 1
Del. quantity			† Tolerance
cm3/1000 strokes	:	<b>64.U</b>	+ cm3/1000 strokes : 15.0
Tolerance		۰.	+ Shutoff solenoid
cm3/1000 strokes	:	0.5	+ Volt : 12
Check tolerance			†
cm3/1000s.	:	3.0	†
Shutoff solenoid			+ Rated speed rpm : 150
Volt	:	12	+ Del. quantity
			- cm3/1000 strokes : 105.0
			+ Tolerance
			+ cm3/1000 strokes : 30.0
ELECTR. SHUTOFF		_	+ Shutoff solenoid
CONTROL LEVER, ID	DE 210	)P	+ Volt : 12
Dated aread non	_	700	†
Rated speed rpm	:	300	ACCEMBLY AND AD INCOMENT DIMENSTONIC
Del. quantity cm3/1000 strokes	:	1.5	ASSEMBLY AND ADJUSTMENT DIMENSIONS
	•	1.5	Dimension V mm . 77
Tolerance cm3/1000 strokes		1.5	Dimension K mm : 3,3
	·	1.5	Tolerance mm : +-0,1 Dimension KF mm : 5,4
Check tolerance cm3/1000s.	•	1.5	Dimension KF mm : 5,4 Tolerance mm : +-0,2
	•	1.5	
Spread cm3/1000 strokes		5.0	+ Dimension MS mm : 1,2 + Tolerance mm : +-0,2
CIIIS/ TOOD SCHOKES	•	٥.0	T roter arice likil . +-0,2
FULL-LOAD STOP CO	NTROL	LEVER	+
Data dama ada men		300	CONTROL LEVER POSITION
Rated speed rpm	•	300	CONTROL LEVER POSITION
Del. quantity	_	1.5	+ SET
cm3/1000 strokes	:	1.5	<b>†</b>
Tolerance cm3/1000 strokes		1.5	Control lever
	•	1.7	position YA mm : 36,538,5
Spread cm3/1000 strokes		5.0	+ posteton (4 iiiii : 30,330,3
Check tolerance	•	٥.٥	Control lever
cm3/1000s.		1.5	+ position YB mm : 43,748,9
	:	(,)	T postcion is imi . 45/146/9
Spread cm3/1000 strokes		5.0	I
CIDY TOOD STROKES	•	٠.٠	I
IDLE DELIVERY			<u> </u>
			End of test-specification sheet
Rated speed rpm	:	400	+
Del. quantity			+
cm3/1000 strokes	:	1.5	+
Tolerance			+
cm3/1000 strokes	:	1.5	+
Check tolerance			+
cm3/1000s.	:	1.5	+
Shutoff solenoid			+
Volt	:	12	+
			+
			+
			+
			+
			+
			+
START TRANSITION			+
			+
Rated speed rpm	: 3	250	+
Del. quantity			†
cm3/1000 strokes	:	60.0	+

# Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.12.95 Test oil : ISO 4113

Part no. : 0 460 484 073 Pump designation : VE4/8F2050R588

Customer-spec. information Customer: RENAULT Motor: F8Q - 640 Power KW: 40.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 3.2 Tolerance in : 0.2 Shutoff solenoid

Volt : 12

# SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 33.5
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3:200 strokes : 2.5
Shute\*f solenoid
Volt : 12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550

Del. quantity
cm3/1000 strokes : 3.0

Tolerance
cm3/1000 strokes : 2.0

Shutoff solenoid
Volt : 12

# FULL-LOAD SPEED REGULATION

Rated speed rpm : 2150
Del. quantity
cm3/1000 strokes : 27.5
Tolerance
cm3/1000 strokes : 3.0
Shutoff solenoid
Volt : 12

# STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 55.0
Tolerance
cm3/1000 strokes : 15.0

Shutoff solenoid Volt	:	12	‡	Tolerance ccm/10s	:	41.6
			+	Check tolerance ccm/10s Shutoff solenoid	:	41.6
INJECTION-PUMP TE	ST	SPECIFICATIONS	}	Volt	:	12
			+	Rated speed rpm		500
TIMING DEVICE CHA	IRAL		‡	Overflow quantity ccm/10s	:	63.8
Rated speed rpm	:	2000	‡	Tolerance ccm/10s	:	22.2
SV travel mm	:	5.4	1		-	
Tolerance mm	•	0.4	1	Check tolerance		
Check	•	0.4	1	ccm/10s		22.2
tolerance mm		0.7	T	Shutoff solenoid	•	CC.C
	:	0.7	T			40
Shutoff solenoid		40	†	Volt	:	12
Volt	:	12	†			
			+	DELIVERY AND BREA	KAW	AY CHARACTERISTI
Rated speed rpm	:	1000	+			
			+	Rated speed rpm	:	2150
SV travel mm	;	1.0	+	Del. quantity		
Tolerance mm	:	0.4	1	cm3/1000 strokes	:	27.5
Check			1	Tolerance		
tolerance mm	•	0.7	1	cm3/1000 strokes		3.0
Shutoff solenoid	•	0.,	1	Check tolerance	•	3.0
Volt		12	$\mathcal{T}$	cm3/1000s.		4.0
VOCE	•	12	T		•	4.0
<b>5</b>		4050	†	Shutoff solenoid		40
Rated speed rpm	:	1250	†	Volt	:	12
			†			
SV travel mm	:	2.1	+	Rated speed rpm	:	2250
Tolerance mm	:	0.4	+	Del. quantity		
Check			+	cm3/1000 strokes	:	16.0
tolerance mm	:	0.7	+	Check tolerance		
Shutoff solenoid			1	cm3/1000s.	:	5.0
Volt	•	12	1	Shutoff solenoid	•	
<b>1011</b>	•		1	Volt		12
SUPPLY PUMP PRESS	1100	CHADACTEDISTIC	1	<b>VOC</b> 1.	•	16
SUPPLI FUMP PRESS	OKE	CHARACTERISTIC	T	Dotod speed spe		2550
<b>5</b> 4 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		2000	<b>†</b>	Rated speed rpm	:	2550
Rated speed rpm	:	2000	†	Del. quantity		<b>~</b> ~
Supply bomb			†	cm3/1000 strokes	:	2.5
pressure bar	:	8.0	†	Tolerance		
Tolerance hPa	:	0.3	+	cm3/1000 strokes	:	2.5
Shutoff solenoid			+	Check tolerance		
Volt	:	12	+	cm3/1000s.	:	2.5
			+	Shutoff solenoid		
Rated speed rpm	:	500	1	Volt	:	12
Supply pomp			1			
pressure bar	•	3.3	1	Rated speed rpm	•	2000
Tolerance hPa	•	0.3	1	Del. quantity	•	2000
Shutoff solenoid	•	0.5	I	cm3/1000 strokes	:	31.0
		10	T		•	51.0
Volt	·	12	Ť	Tolerance		4.0
A.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			†	cm3/1000 strokes	:	1.0
OVERFLOW QUANTITY			+	Check tolerance		
			+	cm3/1000s.	:	2.3
Rated speed rpm	:	2000	+	Shutoff solenoid		
Overflow quantity			+	Volt	:	12
ccm/10s	:	97.2	+			
		-	1	Rated speed rpm	:	750
			ī		-	<del></del>

Del. quantity		† Tolerance
cm3/1000 strokes	: 34.0	+ cm3/1000 strokes : 1.5
Tolerance		+ Spread
cm3/1000 strokes	: 1.5	+ cm3/1000 strokes : 5.0
Check tolerance	• • • • • • • • • • • • • • • • • • • •	+ Check tolerance
cm3/1000s.	: 2.3	+ cm3/1000s. : 1.5
Shutoff solenoid		
		+ Spread
Volt	: 12	+ cm3/1000 strokes : 5.0
		†
Rated speed rpm	: 1625	+
Del. quantity		+
cm3/1000 strokes	: 31.9	+
Tolerance		<del> </del>
cm3/1000 strokes	: 1.5	1
Check tolerance	•	1
cm3/1000s.	: 2.3	+ START TRANSITION
Shutoff solenoid		T STAIL IMMOTITOR
	: 12	T Datadamadama . 710
Volt	: 12	+ Rated speed rpm : 310
		+ Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 30.0
Del. quantity		† Tolerance
cm3/1000 strokes	: 33.0	+ cm3/1000 strokes : 15.0
Tolerance		+ Shutoff solenoid
cm3/1000 strokes	: 1.5	+ Volt : 12
Check tolerance	• 1.5	
cm3/1000S.	: 2.3	Ţ
	. 2.3	T 0-4-4 mm
Shutoff solenoid	43	Rated speed rpm : 210
Volt	: 12	+ Del. quantity
		+ cm3/1000 strokes : 60.0
Rated speed rpm	: 1250	+ Tolerance
Del. quantity		+ cm3/1000 strokes : 15.0
cm3/1000 strokes	: 33.5	+ Shutoff solenoid
Tolerance		+ Volt : 12
cm3/1000 strokes	: 0.5	1
Check tolerance	. 0.5	
	: 2.3	ACCEMBLY AND AD HIGHMENT DIMENSTONIC
cm3/1000s.	: 2.3	+ ASSEMBLY AND ADJUSTMENT DIMENSIONS
Shutoff solenoid		†
Volt	: 12	+ Dimension K mm : 3,3
		+ Tolerance mm : +-0,1
		+ Dimension KF mm : 5,4
		+ Tolerance mm : +0,2
ELECTR. SHUTOFF		Dimension MS mm : 1,3
CONTROL LEVER, ID	OLF STOP	Tolerance mm : +-0,2
J 22 22 12/ 20		1
Rated speed rpm	. 410	1
	. 710	I
Del. quantity	. 45	CONTROL LEVER ROCTITON
cm3/1000 strokes	: 1.5	CONTROL LEVER POSITION
Tolerance		† SET
cm3/1000 strokes	: 1.5	†
Check tolerance		+
cm3/1000s.	: 1.5	+ Control lever
Spread		position YA mm : -
cm3/1000 strokes	: 5.0	1
J. 1.000 3 CT ORES		Control lever
FULL-LOAD STOP CO	MITDAL LEVED	position YB mm : -
FULL-LUAD STOP CO	WINCL LEVER	T POSTCION IB IIIII : -
0-1-1	. /46	†
Rated speed rpm	: 410	†
Del. quantity		
cm3/1000 strokes	: 1.5	+
		+ End of test-specification sheet
		T End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 12,12,95 : ISO 4113

Part no.

: 0 460 484 086 Pump designation: VE4/8F2050R588-1

Customer-spec. information Customer : RENAULT

Motor

Test oil

: F8Q - 640

Power KW

47.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1500 Rated speed rpm :

Setting mm 3.2 Tolerance mm 0.2

Shutoff solenoid

12

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Setting hPa : 6.5 Tolerance hPa 0.3 : Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 33.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REJULATION

Rated speed rpm 2150

Del. quantity

cm3/1000 strokes : 27.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid Volt	:	12	‡	Tolerance ccm/10s	:	41.6
			<del> </del>	Check tolerance ccm/10s Shutoff solenoid	:	41.6
INJECTION-PUMP TE	ST	SPECIFICATIONS	_	Volt	:	12
TIMING DEVICE CHA	RΔC	TERISTIC	<u> </u>	Rated speed rpm Overflow quantity	;	500
			+	ccm/10s	:	63.8
Rated speed rpm	:	2000	‡	Tolerance ccm/10s	:	22.2
SV travel mm	:	5.4	+			
Tolerance mm	:	0.4	1	Check tolerance		
Check	-		1	ccm/10s	•	22.2
tolerance mm	:	0.7	+	Shutoff solenoid	•	
Shutoff solenoid			+	Volt	:	12
Volt	:	12	+			
		4000	t	DELIVERY AND BREA	KAWA	Y CHARACTERISTIC
Rated speed rpm	:	1000	+			
		4.0	†	Rated speed rpm	:	2150
SV travel mm	:	1.0	†	Del. quantity		27 5
Tolerance mm	:	0.4	†	cm3/1000 strokes	:	27.5
Check		0.7	†	Tolerance cm3/1000 strokes		3.0
tolerance mm Shutoff solenoid	•	0.7	Ι	Check tolerance	:	3.0
Volt		12	Ι	cm3/1000s.		4.0
VOCE	•	12	I	Shutoff solenoid	•	4.0
Rated speed rpm	:	1250	1	Volt		12
natea opeca rpm	•	1230	1	VOCC	•	,
SV travel mm	•	2.1	1	Rated speed rpm	:	2250
Tolerance mm	:	0.4	1	Del. quantity	-	
Check	-		1	cm3/1000 strokes	:	16.0
tolerance mm	:	0.7	+	Check tolerance		
Shutoff solenoid			+	cm3/1000s.	:	5.0
Volt	:	12	+	Shutoff solenoid		
			+	Volt	:	12
SUPPLY PUMP PRESS	URE	CHARACTERISTIC	+			
			+	Rated speed rpm	:	2550
Rated speed rpm	:	2000	+	Del. quantity		
Supply pomp			+	cm3/1000 strokes	:	2.5
pressure bar	:	8.0	†	Tolerance		2.5
Tolerance hPa	:	0.3	†	cm3/1000 strokes	:	2.5
Shutoff solenoid	_	4.7	†	Check tolerance		2 5
Volt	:	12	†	cm3/1000s.	:	2.5
Dotad apaed apa		5 <b>00</b>	Ť	Shutoff solenoid Volt		12
Rated speed rpm	:	טטכ	T	VOCE	•	12
Supply pomp		3.3	I	Pated speed rpm		2000
pressure bar Tolerance hPa	:	0.3	I	Rated speed rpm Del. quantity	:	2000
Shutoff solenoid	•	0.5	I	cm3/1000 strokes	•	31.0
Volt	•	12	I	Tolerance	•	31.0
V-C-C	•	· •	1	cm3/1000 strokes	:	1.0
OVERFLOW QUANTITY			1	Check tolerance	•	
TIGHT WOM WOMEN			1	cm3/1000s.	:	2.3
Rated speed rpm	:	2000	1	Shutoff solenoid	-	
Overflow quantity			+	Volt	:	12
ccm/10s	:	97.⊋	+			
			+	Rated speed rpm	:	750

Del. quantity cm3/1000 strokes	: 34.0	‡	Tolerance cm3/1000 strokes	: 1.5
Tolerance	. 54.6	1	Spread	. 1.5
cm3/1000 strokes	: 1.5	+	cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 2.3	‡	Check tolerance cm3/1000s.	: 1.5
Shutoff solenoid		+	Spread	
Volt	: 12	‡	cm3/1000 strokes	: 5.0
Rated speed rpm Del. quantity	: 1625	+		
cm3/1000 strokes Tolerance	: 31.9	Ţ		
cm3/1000 strokes Check tolerance	: 1.5	Ì		
cm3/1000s.	: 2.3	Į	START TRANSITION	
Shutoff solenoid		+		
Volt	: 12	‡	Rated speed rpm Del. quantity	: 310
Rated speed rpm Del. quantity	: 500	1	cm3/1000 strokes Tolerance	: 30.0
cm3/1000 strokes Tolerance	: 33.0	1	cm3/1000 strokes Shutoff solenoid	: 15.0
cm3/1000 strokes	: 1.5	+	Volt	: 12
Check tolerance cm3/1000s.	: 2.3	†		
Shutoff solenoid	. 2.3	Ī	Rated speed rpm	: 210
Volt	: 12	<u>†</u>	Del. quantity cm3/1000 strokes	
Rated speed rpm	: 1250	Ţ	Tolerance	. 00.0
Del. quantity	77 6	+	cm3/1000 strokes	: 15.0
cm3/1000 strokes Tolerance	: 33.5	‡	Shutoff solenoid Volt	: 12
cm3/1000 strokes	: 0.5	+	1311	•
Check tolerance	. 27	†	ACCEMBLY AND AD III	OTMENT NAMENOTONO
cm3/1000S. Shutoff solenoid	: 2.3	<b>‡</b>	ASSEMBLY AND ADJU	STMENT DIMENSIONS
Volt	: 12	+	Dimension K mm	: 3,3
		†	Tolerance mm Dimension KF mm	: +-0,1 : 5,4
	····	I	Tolerance mm	
ELECTR. SHUTOFF		+	Dimension MS mm	: 1,3
CONTROL LEVER, ID	DLE STOP	1	Tolerance mm	: +-0,2
Rated speed rpm Del. quantity	: 410	1		
cm3/1000 strokes	: 1.5	+	CONTROL LEVER POS	ITION
Tolerance cm3/1000 strokes	: 1.5	Ŧ	JEI	
Check tolerance cm3/1000s.	: 1.5	Ī	Control lever	
Spread		Ŧ	position YA mm	: 16,020,0
cm3/1000 strokes	: 5.0	‡	Contro! lever	
FULL-LOAD STOP CO	NITRO!   EVER	+	position YB mm	: 65,977,7
	WINOL LEVER	+		,
Rated speed rpm		‡		
	: 410	‡		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.01.96 Test oil : ISO 4113

: 0 460 404 081 Part no. Pump designation: VE4/10F2100R589

Customer-spec. information

: IVECO-SOFIM Customer : 8140.67.2550 Motor

Power KW 56.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

45 temperature °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : 450 x length mm

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,2 Tolerance mm : 0,02

Check

tolerance mm : 0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1200

2.1 Setting mm Tolerance mm 0.1

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1200

6.1 Setting hPa Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1200

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes 2.5

Shutoff solenoid

12 Volt :

IDLE SETTING

Rated speed rpm 400

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 2.5 :

FULL-LOAD SPEED REGULATION

2400 Rated speed rpm

Del. quantity

cm3/1000 strokes :

16.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid Volt	: 12	† Rated speed rpm : 2100
STARTING FUEL DEL	~	SV travel mm : 7.4 Tolerance mm : 0.4
Rated speed rpm	: 100	Check tolerance mm : 0.7
Del. quantity cm3/1000 strokes	: 90.0	+ Shutoff solenoid + Volt : 12
Tolerance cm3/1000 strokes Shutoff solenoid	: 20.0	Rated speed rpm : 1600
Volt	: 12	SV travel mm : 4.8 Tolerance mm : 0.3 Check
LOAD-DEPENDENT ST SETTING	ART OF DELIVERY	tolerance mm : 0.7 Shutoff solenoid Volt : 12
SELLTING		+
DELIVERY DIFFEREN		SUPPLY PUMP PRESSURE CHARACTERISTIC
Rated speed rpm Del. quantity		Rated speed rpm : 2100 + Supply pomp
cm3/1000 strokes Tolerance		pressure bar : 8.6 Tolerance hPa : 0.3
cm3/1000 strokes Shutoff solenoid Volt	: 1.0	+ Shutoff solenoid + Volt : 12
PRESSURE DIFFEREN		Rated speed rpm : 600 Supply pomp
THEODORE DITTEREN		+ pressure bar : 4.2
Rated speed rpm Del. quantity		+ Tolerance hPa : 0.3 + Shutoff solenoid
cm3/1000 strokes Tolerance	: -0.2	+ Volt : 12
cm3/1000 strokes Shutoff solenoid	: 0.1	OVERFLOW QUANTITY
Volt	: 12	Rated speed rpm : 2100 Overflow quantity
TIMING-DEVICE TRA	VEL DIFFERENCE	+ ccm/10s : 97.2 + Tolerance
Rated speed rpm Del. quantity		+ ccm/10s : 41.6
cm3/1000 strokes Tolerance		Check tolerance : 41.6
cm3/1000 strokes Shutoff solenoid	: 0.1	+ Shutoff solenoid + Volt : 12
Volt	: 12	T Rated speed rpm : 600 Overflow quantity
INJECTION-PUMP TE	ST SPECIFICATIONS	+ ccm/10s : 63.8 + Tolerance
TIMING DEVICE CHAP	RACTERISTIC	ccm/10s : 22.2
Rated speed rpm Tolerance mm		Check tolerance ccm/10s : 22.2
Check tolerance mm	: 0.7	+ Shutoff solenoid + Volt : 12
Shutoff solenoid Volt	: 12	DELIVERY AND BREAKAWAY CHARACTERISTIC

Rated speed rpm	:	2400	+ Del. quantity
Del. quantity cm3/1000 strokes	:	16.0	- cm3/1000 strokes : 42.0 - Tolerance
Tolerance			- cm3/1000 strokes : 0.5
cm3/1000 strokes Check tolerance	:	2.0	+ Check tolerance + cm3/1000s. : 2.0
cm3/1000s.	:	6.0	→ Shutoff solenoid
Shutoff solenoid Volt		12	† Volt : 12
	•		+
Rated speed rpm Del. quantity	;	2300	ELECTR. SHUTOFF
cm3/1000 strokes	:	32.0	CONTROL LEVER, IDLE STOP
Tolerance cm3/1000 strokes		5.0	+ - Rated speed rpm : 400
Shutoff solenoid	•		+ Del. quantity
Volt	:	12	+ cm3/1000 strokes : 1.5 + Tolerance
Rated speed rpm	:	2600	- cm3/1000 strokes : 1.5
Del. quantity		1.5	+ Check tolerance + cm3/1000s. : 1.5
cm3/1000 strokes Tolerance	•	1.2	+ Spread
cm3/1000 strokes	:	1.5	- cm3/1000 strokes : 5.0
Check tolerance cm3/1000s.	:	1.5	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid		12	Partial arrand run (00
Volt	:	12	+ Rated speed rpm : 400 + Del. quantity
Rated speed rpm	:	2100	+ cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes	:	40.0	+ Tolerance + cm3/1000 strokes : 1.5
Tolerance			+ Spread
cm3/1000 strokes Check tolerance	:	1.5	+ cm3/1000 strokes : 5.0 + Check tolerance
cm3/1000s.	:	2.5	+ cm3/1000s. : 1.5
Shutoff solenoid Volt	:	12	+ Spread + cm3/1000 strokes : 5.0
		4500	TO E DEL TUEDA
Rated speed rpm Del. quantity	:	1500	+ IDLE DELIVERY
cm3/1000 strokes	:	41.5	Rated speed rpm : 490
Tolerance cm3/1000 strokes	:	1.5	+ Del. quantity + cm3/1000 strokes : 1.5
Check tolerance		2 5	Tolerance cm3/1000 strokes : 1.5
cm3/1000s. Shutoff solenoid	ï	2.5	+ Check tolerance
Volt	:	12	cm3/1000s. : 1.5
Rated speed rpm	:	600	+ Shutoff solenoid + Volt : 12
Del. quantity		77 5	+
cm3/1000 strokes Tolerance	•	37.5	Ţ
cm3/1000 strokes	:	2.0	†
Check tolerance cm3/1000s.	:	3.0	CHECKING LOAD-DEPENDENT
Shutoff solenoid	•	12	T START OF DELIVERY
Volt	:	12	DELIVERY DIFFERENCE
Rated speed rpm	:	1200	Rated speed rpm : 1200
			T water speed thin . Itou

Del. quantity cm3/1000 strokes : -18.0Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 4.0 Shutoff solenoid Volt 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm 1200 Del. quantity cm3/1000 strokes : -0.8Tolerance 0.1 cm3/1000 strokes : Check tolerance cm3/1000s. 0.1 Shutoff solenoid 12 Volt DELIVERY DIFFERENCE 1200 Rated speed rpm Del. quantity cm3/1000 strokes : 1.5 Tolerance 1.5 cm3/1000 strokes : Check tolerance cm3/1000s.1.5 Shutoff solenoid 12 Volt TIMING-DEVICE TRAVEL DIFFERENCE 1200 Rated speed rpm Tolerance mm 0.4 Check tolerance mm 0.4 Shutoff solenoid 12 Volt EXHAUST-GAS RECIRCULATION 1200 Rated speed rom Del. quantity cm3/1000 strokes : 20.0 Tolerance 0.5 cm3/1000 strokes Check tolerance 2.5 cm3/1000S. Shutoff solenoid 12 Volt

Tolerance cm3/1000 strokes : 10.0 Shutoff solenoid Volt 12 Rated speed rpm 300 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes 15.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm Dimension KF mm : 5,8 Tolerance mm : +-0,2 : 1,8 Dimension MS mm Tolerance mm : +-0,2 : 10,0 KSB travel mm : 9,0 TLA travel mm **MICROSWITCH** SET : 0,8...3,0 mm

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 42,8..44,8

Control lever

position YB mm : 60,8..69,2

End of test-specification sheet

START TRANSITION

Rated speed rpm Del. quantity

cm3/1000 strokes :

500

35.0

/inte remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27,03,95 Edition : ISO 4113 Test oil

: 0 460 404 082 Part no. Pump designation: VE4/10F2050R591

Customer-spec. information

: IVECO-SOFIM Customer : 8140.67.2560 Motor 56.0

Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance \*C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

130 Tolerance bar 3

Test lines : 1 680 750 073

6.00 Outside diameter :

x inside diameter : 2.00 450 x length mm

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm

Tolerance mm

tolerance mm

Check

INJECTION PUMP SETTING VALUES

: 0,2

: 0,02

: 0,04

TIMING DEVICE TRAVEL

Rated speed rpm : 1200

Setting mm 2.2 Tolerance mm 0.1 :

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1200

6.3 Setting hPa Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1200

Del. quantity

cm3/1000 strokes : 42.5

Tolerance

cm3/1000 strokes : 0.5

Spread

2.5 cm3/1000 strokes :

Shutoff solenoid

12 Volt

IDLE SETTING

Rated speed rpm 375

Del. quantity

cm3/1000 strokes : 14.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s.2.5

FULL-LOAD SPEED REGULATION

2300 Rated speed rpm

Del. quantity

cm3/1000 strokes :

25.0

Toloppoo		+ Shutoff solenoid	
Tolerance cm3/1000 strokes	: 2.0	+ Volt	: 12
Shutoff solenoid		1 0000	• 12
Volt	: 12	Rated speed rpm	: 2100
		+	
STARTING FUEL DEL	IVERY	+ SV travel mm	: 7.4
Dated aread non	: 100	+ Tolerance mm + Check	: 0.4
Rated speed rpm Del. quantity	: 100	tolerance mm	: 0.7
cm3/1000 strokes	: 90.0	+ Shutoff solenoid	. 0.7
Tolerance		+ Volt	: 12
cm3/1000 strokes	: 20.0	+	
Shutoff solenoid	. 43	+ Rated speed rpm	: 1600
Volt	: 12	+ SV travel mm	: 4.9
		Tolerance mm	: 0.4
		Check	• • • • • • • • • • • • • • • • • • • •
LOAD-DEPENDENT ST	ART OF DELIVER	Y → tolerance mm	: 0.7
SETTING		+ Shutoff solenoid	4.4
ACLIVEDY ATECCAM	05	+ Volt	: 12
DELIVERY DIFFEREN	CE	T SLIPPLY PLIMP PRESS	URE CHARACTERISTIC
Rated speed rpm	: 1200	+ 3017E170M 1KE30	ONE CHARACTERISTIC
Del. quantity	, , , , ,	+ Rated speed rpm	: 2100
cm3/1000 strokes	: -14.0	+ Supply pomp	
Tolerance	4.6	+ pressure bar	: 8.8
cm3/1000 strokes	: 1.0	+ Tolerance hPa + Shutoff solenoid	: 0.3
Shutoff solenoid Volt	: 12	+ Volt	: 12
VOCC	, , , , ,	1	• ''-
DDECCUDE STEEDEN	CE	Datad assad ass	. (00
PRESSURE DIFFEREN	LE	+ Rated speed rpm	: 600
		+ Supply pomp	
Rated speed rpm		Supply pomp + pressure bar	: 4.4
Rated speed rpm Del. quantity	: 1200	Supply pomp pressure bar Tolerance hPa	
Rated speed rpm	: 1200	Supply pomp + pressure bar	: 4.4
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1200 : -0.2	Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: 4.4 : 0.3
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1200 : -0.2 : 0.1	Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: 4.4 : 0.3 : 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1200 : -0.2	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY	: 4.4 : 0.3 : 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 1200 : -0.2 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm	: 4.4 : 0.3 : 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1200 : -0.2 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY	: 4.4 : 0.3 : 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 1200 : -0.2 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance	: 4.4 : 0.3 : 12 : 2100 : 97.2
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s	: 4.4 : 0.3 : 12 : 2100
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s	: 4.4 : 0.3 : 12 : 2100 : 97.2
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200 : -0.8	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200 : -0.8	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s	: 4.4 : 0.3 : 12 : 2100 : 97.2
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200 : -0.8	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1200 : -0.2 : 0.1 : 12 VEL DIFFERENCE : 1200 : -0.8 : 0.1	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid Volt	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6 : 41.6 : 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6 : 41.6 : 12 : 600
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6 : 41.6 : 12 : 600
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6 : 41.6 : 12 : 600
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12  ST SPECIFICATION  RACTERISTIC	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity ccm/10s	: 4.4 : 0.3 : 12 : 2100 : 97.2 : 41.6 : 41.6 : 12 : 600
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TES  TIMING DEVICE CHAIR  Rated speed rpm	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12  ST SPECIFICATION  RACTERISTIC : 1800	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s	<ul> <li>: 4.4</li> <li>: 0.3</li> <li>: 12</li> <li>: 2100</li> <li>: 97.2</li> <li>: 41.6</li> <li>: 41.6</li> <li>: 12</li> <li>: 600</li> <li>: 63.8</li> </ul>
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TES  TIMING DEVICE CHAIR  Rated speed rpm Tolerance mm	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12  ST SPECIFICATION  RACTERISTIC	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance	<ul> <li>: 4.4</li> <li>: 0.3</li> <li>: 12</li> <li>: 2100</li> <li>: 97.2</li> <li>: 41.6</li> <li>: 41.6</li> <li>: 12</li> <li>: 600</li> <li>: 63.8</li> <li>: 22.2</li> </ul>
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TEX TIMING DEVICE CHAIR Rated speed rpm Tolerance mm Check	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12  ST SPECIFICATION RACTERISTIC : 1800 : 0.3	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Check tolerance	<ul> <li>: 4.4</li> <li>: 0.3</li> <li>: 12</li> <li>: 2100</li> <li>: 97.2</li> <li>: 41.6</li> <li>: 41.6</li> <li>: 12</li> <li>: 600</li> <li>: 63.8</li> </ul>
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TES  TIMING DEVICE CHAIR  Rated speed rpm Tolerance mm	: 1200 : -0.2 : 0.1 : 12  VEL DIFFERENCE : 1200 : -0.8 : 0.1 : 12  ST SPECIFICATION  RACTERISTIC : 1800	Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid Volt  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance ccm/10s Tolerance	<ul> <li>: 4.4</li> <li>: 0.3</li> <li>: 12</li> <li>: 2100</li> <li>: 97.2</li> <li>: 41.6</li> <li>: 41.6</li> <li>: 12</li> <li>: 600</li> <li>: 63.8</li> <li>: 22.2</li> </ul>

DELIVERY AND BREA	\KAW/	AY CHARACTERISTIC	: ‡	Del. quantity cm3/1000 strokes	:	42.5
Rated speed rpm	:	2300	‡	Tolerance cm3/1000 strokes	:	0.5
el. quantity m3/1000 strokes	:	25.0	‡	cm3/1000 strokes Check tolerance cm3/1000s.		2.0
erance /1000 strokes	:	2.0	<del> </del>	Shutoff solenoid Volt	:	12
ck tolerance /1000s.	:	6.0	‡			
rtoff solenoid t	:	12	+	ELECTR. SHUTOFF		
ted speed rpm	:	2400	‡	CONTROL LEVER, ID	LE S	ГОР
l. quantity 3/1000 strokes			‡	Rated speed rpm Del. quantity	:	375
utoff solenoid lt	:	12	+	cm3/1000 strokes Tolerance	:	1.5
ted speed rpm			‡	cm3/1000 strokes Check tolerance	:	1.5
quantity 3/1000 strokes			‡	cm3/1000s. Spread	:	1.5
lerance 3/1000 strokes		1.5	+	cm3/1000 strokes	:	5.0
eck tolerance 3/1000s.		1,5	+	FULL-LOAD STOP CO	NTROL	LEVER
stoff solenoid	•	12	1	Rated speed rpm Del. quantity	:	375
ed speed rpm	•		1	cm3/1000 strokes Tolerance	:	1.5
. quantity 3/1000 strokes			$\frac{1}{1}$	cm3/1000 strokes Spread	:	1.5
.erance		1.5	Ŧ	cm3/1000 strokes Check tolerance	:	5.0
3/1000 strokes eck tolerance			Ŧ	cm3/1000S.	:	1.5
3/1000s. utoff solenoid	•	2.5	Ŧ	Spread cm3/1000 strokes	:	5.0
lt	:	12	‡	IDLE DELIVERY		
ed speed rpm . quantity			‡	Rated speed rpm	:	465
3/1000 strokes lerance		42.0	‡	Del. quantity cm3/1000 strokes	:	1.5
3/1000 strokes eck tolerance	:	1.5	‡	Tolerance cm3/1000 strokes	:	1.5
3/1000s. utoff solenoid	:	2.5	‡	Check tolerance cm3/1000s.	:	1.5
.t	:	12	‡	Shutoff solenoid Volt	:	12
ed speed rpm . quantity	:	600	‡			
/1000 strokes erance		38.0	‡			
/1000 strokes ck tolerance	:	2.0	‡	CHECKING LOAD-DEP	ENDEN	IT
3/1000S. utoff solenoid	:	3.0	+	START OF DELIVERY		
lt	:	12	‡	DELIVERY DIFFEREN		
ed speed rpm	:	1200	+	Rated speed rpm	:	1200

Del. quantity		+ Tolerance	
cm3/1000 strokes	: -18.0		rokes : 10.0
Tolerance		+ Shutoff sol	
cm3/1000 strokes	: 3.0	+ Volt	: 12
Check tolerance		†	
cm3/1000s.	: 4.0	T Dated annual	rpm : 300
Shutoff solenoid Volt	: 12	+ Rated speed + Del. quanti	•
VOCC	• 12	T cm3/1000 st	rokes : 70.0
TIMING-DEVICE TRA	AVEL DIFFERENC		10.0
	.,		rokes : 15.0
Rated speed rpm	: 1200	+ Shutoff sol	
Del. quantity		+ Volt	: 12
cm3/1000 strokes	: -0.8	+	
Tolerance	0.4	40051101 1/ 411	
cm3/1000 strokes Check tolerance	: 0.1	+ ASSEMBLY AN	D ADJUSTMENT DIMENSIONS
cm3/1000s.	: 0.1	Dimension K	mm :-
Shutoff solenoid	. 0.1	Dimension K	
Volt	: 12	+ Tolerance m	
	, _	+ Dimension M	
DELIVERY DIFFEREN	ICE	+ Tolerance m	n : +-0,2
		∔ KSB travel i	nn : 10,0
Rated speed rpm	: 1200	† TLA travel i	nm : 9,0
Del. quantity	4.5	†	
cm3/1000 strokes	: 1.5	MICROCULTICAL	
Tolerance cm3/1000 strokes	: 1.5	+ MICROSWITCH + SET	
Check tolerance		I	
cm3/1000s.	: 1.5	- mm	: 0,83,0
Shutoff solenoid		<u> </u>	. 3,31113,2
Volt	: 12	+ CONTROL LEVE	ER POSITION
		+ SET	
TIMING-DEVICE TRA	IVEL DIFFERENC	E †	
Dakad award mas	. 4200	† Cambral Law	
Rated speed rpm Tolerance mm	: 1200 : 0.4	+ Control leve + position YA	
Check	. 0.4	I position in	. 42/744/7
tolerance mm	: 0.4	- Control leve	er
Shutoff solenoid		position Y8	
Volt	: 12	<del>,</del> '	•
		†	
		<del></del> +	
EXHAUST-GAS RECIR	CULATION	t Food of toot	ification chart
Dated speed spm	: 1200	t End of test-	-specification sheet
Rated speed rpm Del. quantity	. 1200	I	
cm3/1000 strokes	: 31.5	1	
Tolerance		1	
cm3/1000 strokes	: 0.5	+	
Check tolerance		+	
cm3/1000s.	: 2.5	+	
Shutoff solenoid	. 40	†	
Volt	: 12	†	
START TRANSITION		Ĭ	
SIMKI IKMNOTITON		Ī	
Rated speed rpm	: 500	1	
Del. quantity	. 500	+	
cm3/1000 strokes	: 35.0	<del> </del>	

F08

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19,10,94 Edition : ISO 4113 Test oil

: 0 460 494 368 Part no. Pump designation : VE4/9F2200R603

Customer-spec. information

Customer : VW

Motor : 1,9 L UD MVEG 2

Power KW 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

0.55 restriction mm

0.35 Inlet press. bar : Tolerance bar :

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

147 bar Tolerance bar

: 1 680 750 073 Test lines

6.00 Outside diameter :

x inside diameter : 2.00 x Length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0.8 Tolerance mm : +0.02

Outlet

: A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1250 Rated speed rpm Aneroid pressure

750

5.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250 Aneroid pressure

hPa

Setting hPa 5.8 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750

Rated speed rpm : 1250

Aneroid pressure

hPa 750 Del. quantity

cm3/1000 strokes : 46.5

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. 3.0

Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

550 Rated speed rpm

Del. quantity

cm3/1000 strokes : Tolerance

cm3/1000 strokes :

0.5

8.0

F09

Shutoff solenoid Volt	: 12	+ Shutoff solenoid + Volt : 12
		+
FULL-LOAD SPEED R	EGULATION	<pre>+ Timing device + solenoid Volt : 100</pre>
Rated speed rpm	: 2525	<del>}</del>
Pressure hPa Del. quantity	: 750	SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes	: 20.0	Rated speed rpm : 2000
Tolerance	. 20.0	Aneroid pressure
cm3/1000 strokes	: 2.0	+ hPa : 750
Shutoff solenoid		+ Supply pomp
Volt	: 12	pressure bar : 8.0
		Tolerance hPa : 0.3
		+ Shutoff solenoid
SET GRADUATED STA	RTING DELIVERY	+ Volt : 12
CONTROL LEVER, ID		1
		Rated speed rpm : 750
Rated speed rpm	: 100	+ Aneroid pressure
Del. quantity		+ hPa : 750
cm3/1000 strokes	: 43.0	+ Supply pomp
Tolerance		pressure bar : 4.3
cm3/1000 strokes	: 3.0	† Tolerance hPa : 0.3
Shutoff solenoid		+ Shutoff solenoid
Volt	: 12	† Volt : 12
		+
		+ OVERFLOW QUANTITY
		+
	<del></del>	- + Rated speed rpm : 1250
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Aneroid pressure
		+ hPa : 750
TIMING DEVICE CHA	RACTERISTIC	+ Overflow quantity
	2022	+ ccm/10s : 77.7
Rated speed rpm	: 2000	+ Tolerance
Aneroid pressure	. 750	+ ccm/10s : 22.2
hPa Talanana	: 750	† Charle tallarana
Tolerance mm	: 0.4	+ Check tolerance + ccm/10s : 34.7
Check	: 0.8	+ Shutoff solenoid
tolerance mm Shutoff solenoid		+ Volt : 12
Volt	: 12	1 12
VOCC	. 12	Rated speed rpm : 2100
Rated speed rpm	: 750	Aneroid pressure
Aneroid pressure	. 750	+ hPa : 750
hPa	: 750	Overflow quantity
•		+ ccm/10s : 97.2
SV travel mm	: 3.4	+ Tolerance
Tolerance mm	: 0.4	+ ccm/10s : 41.6
Check		+
tolerance mm	: 0.8	+ Check tolerance
Shutoff solenoid		+ ccm/10s : 55.5
Volt	: 12	+ Shutoff solenoid
		+ Volt : 12
Rated speed rpm	: 2000	+
Aneroid pressure		† DELIVERY AND BREAKAWAY CHARACTERISTIC
hPa	: 750	†
	•	+ Rated speed rpm : 2525
SV travel mm	: 0.8	+ Aneroid pressure
Tolerance mm	: 0.4	† hPa : 750
		+

Del. quantity			+	Tolerance			
cm3/1000 strokes	:	20.0	+	cm3/1000 strokes	:	0.5	
Tolerance			+	Check tolerance			
cm3/1000 strokes	•	2.0	1	cm3/1000s.	•	2.2	
Check tolerance	•	2.0	1	Shutoff solenoid	•		
		4.0	T			13	
cm3/1000s.	•	4.0	Ť	Volt	:	12	
Shutoff solenoid			+				
Volt	:	12	+	Rated speed rpm	:	700	
			+	Aneroid pressure			
Rated speed rpm	:	2400	+	hPa	:	180	
Aneroid pressure			1	Tolerance			
hPa	•	750	1	cm3/1000 strokes		0.5	
Del. quantity	•	. 30	1	Check tolerance	•	0.5	
cm3/1000 strokes		34.5	T	cm3/1000s.		0.5	
	•	34.3	<b>†</b>		•	0.5	
Tolerance			†	Check tolerance		<b>.</b>	
cm3/1000 strokes	:	5.0	+	cm3/1000s.	:	0.5	
Check tolerance			+	Shutoff solenoid			
cm3/1000s.	:	6.0	+	Volt	:	12	
Shutoff solenoid			1				
Volt		12	1	Rated speed rpm		700	
VOCC	•	16	T		•	700	
<b>6 4</b> 1		2750	T	Aneroid pressure		700	
Rated speed rpm	:	2750	†	hPa	:	300	
Aneroid pressure			+	Del. quantity			
hPa	;	750	+	cm3/1000 strokes	:	6.0	
Del. quantity			+	Check tolerance			
cm3/1000 strokes	:	1.5	1	cm3/1000s.	:	1.0	
Tolerance	•		1	Shutoff solenoid	-		
cm3/1000 strokes		1.5	1	Volt		12	
Check tolerance	•	1.5	T	VOCC	•	12	
		1.5	T				
cm3/1000s.	•	1.5	T				
Shutoff solenoid	•		Ŧ				
	:	12	<del> </del> +	ELECTR. SHUTOFF			
Shutoff solenoid	:	12	T + +	ELECTR. SHUTOFF CONTROL LEVER, ID	LE	STOP	<del></del>
Shutoff solenoid	:		T + + +		LE ·	STOP	
Shutoff solenoid Volt Rated speed rpm	:	12	T + + + +	CONTROL LEVER, ID		STOP 450	
Shutoff solenoid Volt Rated speed rpm Aneroid pressure	:	12 2100	T + + + + +	CONTROL LEVER, ID Rated speed rpm			
Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	:	12	T + + + + + + + + + + + + + + + + + + +	CONTROL LEVER, ID  Rated speed rpm Del. quantity	:	450	
Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity	:	12 2100 750	T+++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	:		
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:	12 2100	T+++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	450 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	12 2100 750 46.2	T+++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	450	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	12 2100 750	T+++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	12 2100 750 46.2 1.0	T+++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	450 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	12 2100 750 46.2	<b>T+++++++++++</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	12 2100 750 46.2 1.0 2.2	<b>T+++++++++++</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	12 2100 750 46.2 1.0 2.2	<del></del>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	12 2100 750 46.2 1.0	<del></del>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	12 2100 750 46.2 1.0 2.2	<b></b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	:	12 2100 750 46.2 1.0 2.2	<del></del>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : :	12 2100 750 46.2 1.0 2.2 12	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : :	12 2100 750 46.2 1.0 2.2	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : :	12 2100 750 46.2 1.0 2.2 12	<b>┰┽┽┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	450 1.5 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	450 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION Rated speed rpm	: : :	450 1.5 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Shutoff solenoid	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5	<b>┌┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	450 1.5 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0	<b>╌┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	450 1.5 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5	<b>┸╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : :	450 1.5 1.5 1.5 380 41.0	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5	<b>┌┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : :	450 1.5 1.5 1.5	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure	: : : : : : : : : : : : : : : : : : : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5 12	<b>┖╅╅╅╅╅╅╅╅╁╁╁╁╁╁┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : :	450 1.5 1.5 1.5 1.5 1.0 41.0 10.0	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa	: : : : : : : : : : : : : : : : : : : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5	<b>┖╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : :	450 1.5 1.5 1.5 380 41.0	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity	: : : : : : : : : : : : : : : : : : : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5 12 1250 750	<b>┖╅╅╅╅╅╅╅╅╁╁╁╁╁╁╁┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : :	450 1.5 1.5 1.5 1.5 1.0 41.0 10.0	
Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa	: : : : : : : : : : : : : : : : : : : :	12 2100 750 46.2 1.0 2.2 12 450 44.7 3.0 5.5 12	<b>┖╅╅╅╅╅╅╅╅╁╁╁╁╁╁┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼</b>	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : :	450 1.5 1.5 1.5 1.5 1.0 41.0 10.0	

180 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : Shutoff solenoid

10.0

Volt

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 : +-0,2 : 1,2 Tolerance mm Dimension MS mm

Tolerance mm : +-0,2

End of test-specification sheet

F12

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95 Test oil : ISO 4113

Part no. : 0 460 494 413 Pump designation : VE4/9F2200R603-1

Customer-spec. information

Customer : VW

Motor : 1,9 L UD MVEG 2

Power KW : 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 147 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa : 750

Setting mm : 5.5 Tolerance mm : 0.2

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 750

Setting hPa : 5.8 Tolerance hPa : 0.3

Shutoff solenoid

olt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 750

Del. quantity

cm3/1000 strokes : 46.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

....

Rated speed rpm : 2525

Pressure hPa : 750

Del. quantity			+	Rated speed rpm	:	2000
cm3/1000 strokes Tolerance	: 2	0.0	İ	Aneroid pressure hPa	:	750
cm3/1000 strokes	:	2.0	Ŧ	Supply pomp	•	
Shutoff solenoid		42	+	pressure bar	:	8.0
Volt	:	12	+	Tolerance hPa Shutoff solenoid	:	0.3
			I	Volt	:	12
SET GRADUATED STA	RTING DE	LIVERY	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·	
CONTROL LEVER, ID	LE STOP		+	Rated speed rpm	:	750
	40	•	+	Aneroid pressure		750
Rated speed rpm	: 10	U	Ť	hPa Supply pomp	:	750
Del. quantity cm3/1000 strokes	. 4	3.0	I	Supply pomp pressure bar		4.3
Tolerance	• •	3.0	1	Tolerance hPa	:	0.3
cm3/1000 strokes	:	3.0	+	Shutoff solenoid		
Shutoff solenoid		40	+	Volt	:	12
Volt	:	12	+	OVEDELOU OUANTITY		
			Ī	OVERFLOW QUANTITY		
			1	Rated speed rpm	:	1250
			+	Aneroid pressure		
INJECTION-PUMP TE	ST SPECI	FICATIONS	+	hPa	:	750
TIMING NEUTCE CUA		TTC	†	Overflow quantity ccm/10s		77.7
TIMING DEVICE CHA	KAC1EKT2	110	Ī	Tolerance	•	((,(
Rated speed rpm	: 200	מ	1	ccm/10s	:	22.2
Aneroid pressure		-	+		-	
hPa		750	+	Check tolerance		
Tolerance mm	: (	0.4	+	ccm/10s	:	34.7
Check tolerance mm		0.8	İ	Shutoff solenoid Volt		12
Shutoff solenoid	• '	3.0	1	VOCE	•	12
Volt	:	12	+	Rated speed rpm	:	2100
	75	•	+	Aneroid pressure		750
Rated speed rpm Aneroid pressure	: 750	J	Í	hPa Overflow quantity	:	750
hPa	:	750	1	ccm/10s	:	97.2
			+	Tolerance		
SV travel mm		3.4	+	ccm/10s	:	41.6
Tolerance mm	: (	0.4	†	Charle talanana		
Check tolerance mm	. (	0.8	Ī	Check tolerance ccm/10s		55.5
Shutoff solenoid	•	,,,	+	Shutoff solenoid	•	331.7
Volt	:	12	+	Volt	:	12
	200		+	AEI TUEDV AND DOCAL		
Rated speed rpm Aneroid pressure	: 2000	J	†	DELIVERY AND BREAK	AWA	Y CHARACTERISTIC
hPa	•	<b>'</b> 50	I	Rated speed rpm	:	2525
THE G	•	<b>50</b>	+	Aneroid pressure	•	
SV travel mm		0.8	+	hPa	:	750
Tolerance mm	: (	0.4	†	Del. quantity		20.0
Shutoff solenoid Volt	•	12	1	cm3/1000 strokes Tolerance	:	20.0
VOLL	•	16	Ţ	cm3/1000 strokes	:	2.0
Timing device			+	Check tolerance	-	
solenoid Volt	: 1	100	+	cm3/1000s.	:	4.0
SUBBLY SUBB SSSS	OF 6046	ACTEDIATIO	†	Shutoff solenoid		13
SUPPLY PUMP PRESS	JRE CHARA	ICTERISTIC	İ	Volt	:	12
			1			

Rated speed rpm	:	2400	+	Aneroid pressure		180	
Aneroid pressure hPa	:	750	Ŧ	hPa Tolerance	•		
Del. quantity cm3/1000 strokes	:	34.5	‡	cm3/1000 strokes Check tolerance	:	0.5	
Tolerance cm3/1000 strokes	•	5.0	<u>†</u>	cm3/1000S. Check tolerance	:	0.5	
Check tolerance	•		+	cm3/1000s.	:	0.5	
cm3/1000S. Shutoff solenoid	•	6.0	Ţ	Shutoff solenoid Volt	:	12	
Volt	:	12	+	Rated speed rpm	:	700	
Rated speed rpm Aneroid pressure	:	2750	<u> </u>	Aneroid pressure hPa	•	300	
hPa	:	750	+	Del. quantity	•	6.0	
Del. quantity cm3/1000 strokes	:	1.5	Ŧ	cm3/1000 strokes Check tolerance	:		
Tolerance cm3/1000 strokes	:	1.5	‡	cm3/1000S. Shutoff solenoid	:	1.0	
Check tolerance cm3/1000s.	•	1.5	<u> </u>	Volt	:	12	
Shutoff solenoid	•	12	+				
Volt	i		Ŧ	ELECTR. SHUTOFF			
Rated speed rpm Aneroid pressure	:	2100	‡	CONTROL LEVER, ID	OLE ST	ГОР	
hPa Del. quantity	:	750	‡	Rated speed rpm Del. quantity	:	450	
cm3/1000 strokes Tolerance	:	46.2	+	cm3/1000 strokes Tolerance	:	1.5	
cm3/1000 strokes	:	1.0	Ŧ	cm3/1000 strokes	:	1.5	
Check tolerance cm3/1000s.	:	2.2	‡	Check tolerance cm3/1000s.	:	1.5	
Shutoff solenoid Volt	;	12	‡	Spread cm3/1000 strokes	:	5.0	
Rated speed rpm	:	450	1	FULL-LOAD STOP CO		LEVER	
Del. quantity			+				
Tolerance	:	44.7	Į	Rated speed rpm Del. quantity	•	450	
cm3/1000 strokes Check tolerance	:	3.0	‡	cm3/1000 strokes Tolerance	:	1.5	
cm3/1000s. Shutoff solenoid	:	5.5	Ì	cm3/1000 strokes Spread	:	1.5	
Volt	:	12	+	cm3/1000 strokes	:	5.0	
Rated speed rpm	:	1250	1	Check tolerance cm3/1000s.	:	1.5	
Aneroid pressure hPa	:	750	‡	Spread cm3/1000 strokes	:	5.0	
Del. quantity cm3/1000 strokes	•	46.5	<u>†</u>				
Tolerance		0.5	+				
cm3/1000 strokes Check tolerance	•		Ŧ				
cm3/1000s. Shutoff solenoid	:	2.2	‡				
Volt	:	12	‡	START TRANSITION			
Rated speed rpm	:	700	1	Rated speed rpm	:	380	
			7				

Del. quantity

cm3/1000 strokes : 41.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

180 Rated speed rpm

Del. quantity cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 : +-0,2 Tolerance mm Dimension MS mm : 1,2 : +-0,2 Tolerance mm

CONTROL LEVER POSITION SET

Control lever

: 36,0..40,0 position YA mm

Control lever

position YB mm : 48,6..58,4

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.06.95 Edition : ISO 4113 Test oil

: 0 460 494 416 Part no. Pump designation : VE4/9F2200R604-1

Customer-spec. information Customer : VW

: 1,9 L UD MVEG 2 Motor

Power KW 55.0

#### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

147 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

750

Setting mm 5.5 Tolerance mm 0.2 Shutoff solenoid

Vol+ 12

# SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure 750 hPa

5.8 Setting hPa Tolerance hPa 0.3 Shutoff solenoid

Volt 12

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure 750

Del. quantity cm3/1000 strokes : 46.5 Tolerance

cm3/1000 strokes : 0.5 Spread 2.5

cm3/1000 strokes : Check tolerance

3.0 cm3/1000s.

Shutoff solenoid Volt

12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. 3.0

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550

Del. quantity cm3/1000 strokes :

8.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

## FULL-LOAD SPEED REGULATION

Rated speed rpm 2525 Pressure hPa 750

SUPPLY PUMP PRESSURE CHARACTERISTIC Tolerance cm3/1000 strokes : 2.0	Del. quantity			+			
cm3/1000 strokes : 2.0         2.0           Shutoff solenoid         12           SET GRADUATED STARTING DELIVERY         Tolerance IPa           CONTROL LEVER, IDLE STOP         Supply pomp pressure bar inclerance IPa           Rated speed rpm : 100         Tolerance IPa           Del. quantity cm3/1000 strokes : 43.0         Aneroid pressure har inclerance inc	cm3/1000 strokes	:	20.0	1	SUPPLY PUMP PRESS	SURE	CHARACTERISTIC
Volt   :   12	cm3/1000 strokes	:	2.0	Ŧ	Rated speed rpm	:	2000
SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP		:	12	Ŧ	hPa	:	750
Tolerance hPa   0.3				Ī		:	8.0
Rated speed rpm : 100  Del. quantity cm3/1000 strokes : 43.0 Tolerance cm3/1000 strokes : 3.0  Shutoff solenoid Volt : 12  INJECTION-PUMP TEST SPECIFICATIONS  TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Rated speed rpm : 2000 Rated speed rpm : 750  Roverflow Quantity Cm/10s : 77.7  Tolerance Check Tolerance mm : 0.4 Check Tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2100  Rated speed rpm : 22.2  SV travel mm : 8.6 Tolerance mm : 0.4 Check Tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2100  Rated speed rpm : 2000  Rated speed rpm : 2000  Rated speed rpm : 2000  Rated speed rpm : 750  Rated speed rpm : 2000  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Aneroid pressure hPa : 750  Aneroid pressure hPa : 750  Check tolerance cm/10s : 34.7  Tolerance cm/10s : 750  Aneroid pressure hPa : 750  Aneroid pressure hPa : 750  Check tolerance cm/10s : 750  Aneroid pressure hPa : 750  Check tolerance cm/10s : 750  Aneroid pressure hPa : 750  Check tolerance cm/10s : 97.2  Tolerance cm/10s : 41.6  Check tolerance cm/10s : 41.6  Check tolerance cm/10s : 55.5  Shutoff solenoid Volt : 12  Rated speed rpm : 2000  Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC  Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERISTIC PELIVERY AND BREAKAWAY CHARACTERI				Ì	Tolerance hPa	:	0.3
Del. quantity         Rated speed rpm         750           cm3/1000 strokes         3.0         Supply pomp         750           Shutoff solenoid         12         Tolerance hPa         0.3           Shutoff solenoid         Volt         12         OVERFLOW QUANTITY           INJECTION-PUMP TEST SPECIFICATIONS           TIMING DEVICE CHARACTERISTIC         Rated speed rpm         1250           Rated speed rpm         2000         Overflow quantity           Aneroid pressure         hPa         750           hPa         750         Overflow quantity           Cm/10s         77.7         Tolerance           Cm/10s         22.2           SV travel mm         8.6         Check tolerance           Com/10s         22.2           SV travel mm         0.8         Shutoff solenoid           Volt         12         Rated speed rpm         2100           Rated speed rpm         750         Aneroid pressure           hPa         750         Aneroid pressure           hPa         750         Aneroid pressure           hPa         750         Aneroid pressure           hPa         750         Overflow quantity           ccm	·			<del>-</del>		:	12
Tolerance cm3/1000 strokes : 3.0	Del. quantity			7	Rated speed rpm	:	750
Pressure bar	Tolerance			‡	hPa		750
Volt		:	3.0	+	Supply pomp		/ <del>7</del>
Shutoff solenoid   Volt   : 12		•	12	Ī		:	
NUMERICAL PUMP TEST SPECIFICATIONS   Rated speed rpm   1250	VOCC	•	, 2	+		•	<b>0.</b> 0
Rated speed rpm : 1250   Rated speed rpm : 2000   Aneroid pressure   hPa				<u>†</u>	Volt	:	12
Rated speed rpm : 1250   Aneroid pressure   hPa	THIS CATANA CHIMD TO		PECTETCATIONS		OVERFLOW QUANTITY	,	
Aneroid pressure	INJECTION-PUMP TE	51 3	SPECIFICATIONS	Ī	Rated speed rpm	:	1250
Rated speed rpm	TIMING DEVICE CHA	RACT	TERISTIC	+	Aneroid pressure	•	
Aneroid pressure hPa : 750			2000	†		:	750
hPa       : 750       Tolerance ccm/10s       : 22.2         SV travel mm       : 8.6       Check tolerance ccm/10s       : 34.7         Tolerance mm       : 0.8       Shutoff solenoid Volt       : 12         Rated speed rpm       : 0.8       Shutoff solenoid Volt       : 12         Rated speed rpm       : 750       Aneroid pressure hPa       : 750         Aneroid pressure hPa       : 750       Overflow quantity ccm/10s       : 97.2         SV travel mm       : 3.4       Tolerance ccm/10s       : 41.6         Tolerance mm       : 0.4       Check tolerance ccm/10s       : 55.5         SV travel mm       : 0.8       Check tolerance ccm/10s       : 55.5         SV travel mm       : 0.8       Check tolerance ccm/10s       : 55.5         SV travel mm       : 0.8       Aneroid pressure hPa       : 750         Aneroid pressure hPa       : 750       Pali Very AND BREAKAWAY CHARACTERISTIC         Rated speed rpm       : 2525       Aneroid pressure hPa       : 750         Tolerance mm       : 0.4       - 750       - 750         SV travel mm       : 0.8       - 750       - 750         SV travel mm       : 0.8       - 750       - 750         SV travel mm		:	2000	Ī	overtiow quantity		77 7
SV travel mm		:	750	+		•	
Tolerance mm : 0.4 Check Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 750 Aneroid pressure hPa : 750 SV travel mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 3.4 Tolerance mm : 0.4 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2100 Aneroid pressure hPa : 750 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s : 97.2 Tolerance Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  Rated speed rpm : 2525 SV travel mm : 0.8 Tolerance mm : 0.8 Tolerance mm : 0.4 Aneroid pressure hPa : 750  Rated speed rpm : 2525 SV travel mm : 0.8 Tolerance mm : 0.4 DeLivery AND BREAKAWAY CHARACTERISTIC Page 1 Page 2 Page 2 Page 3 Page	•		2 (	+	ccm/10s	:	22.2
Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 750 Aneroid pressure hPa : 750  SV travel mm : 0.8 Check tolerance mm : 0.8 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  SV travel mm : 0.8 Check tolerance mm : 0.8 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000  Aneroid pressure hPa : 750  Check tolerance mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 0.8 Check tolerance ccm/10s : 55.5  SV travel mm : 750  DELIVERY AND BREAKAWAY CHARACTERISTIC ccm/3/1000 strokes : 20.0  Tolerance mm : 750  Del. quantity ccm/3/1000 strokes : 20.0  Tolerance ccm/10s : 2000  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2525  Aneroid pressure ccm/10s : 2000  Aneroid pressure cc		:		1	Check tolerance		
tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 750 Aneroid pressure Aneroid pressure hPa : 750 SV travel mm : 0.4 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2100 Aneroid pressure hPa : 750 Overflow quantity ccm/10s : 97.2 Tolerance ccm/10s : 41.6 Check tolerance mm : 0.8 Check tolerance Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  PELIVERY AND BREAKAWAY CHARACTERISTIC NPa : 750 SV travel mm : 0.8 Tolerance mm : 2525 SV travel mm : 0.8 Tolerance mm : 0.4 Del. quantity cm3/1000 strokes : 20.0 Tolerance		•	0.4	Ţ		:	34.7
Volt       : 12         Rated speed rpm       : 750         Aneroid pressure       hPa       : 750         Aneroid pressure       hPa       : 750         Near oid pressure       hPa       : 750         Near oid pressure       hPa       : 750         SV travel mm       : 3.4       Tolcrance         Tolerance mm       : 0.4       ccm/10s       : 41.6         Check tolerance       ccm/10s       : 55.5         Shutoff solenoid       Volt       : 12         Rated speed rpm       : 2000       DELIVERY AND BREAKAWAY CHARACTERISTIC         Rated speed rpm       : 2525         Aneroid pressure       hPa       : 750         Tolerance mm       : 0.4       Del. quantity         Shutoff solenoid       Del. quantity       cm3/1000 strokes       : 20.0         Tolerance       Tolerance	tolerance mm	:	0.8	+	Shutoff solenoid	•	
Rated speed rpm : 750  Aneroid pressure hPa : 750  Overflow quantity ccm/10s : 97.2  SV travel mm : 3.4  Tolerance mm : 0.4  Check tolerance mm : 0.8  Shutoff solenoid Volt : 12  Rated speed rpm : 2000  Aneroid pressure hPa : 750  Overflow quantity ccm/10s : 97.2  Tolerance ccm/10s : 41.6  Check tolerance ccm/10s : 55.5  Shutoff solenoid Volt : 12  PELIVERY AND BREAKAWAY CHARACTERISTIC PA : 750  SV travel mm : 0.8  Tolerance mm : 0.4  Pa : 750  Rated speed rpm : 2525  Aneroid pressure hPa : 750  SV travel mm : 0.8  Tolerance mm : 0.4  Del. quantity cm3/1000 strokes : 20.0  Tolerance			42	+	Volt	:	12
Rated speed rpm : 750  Aneroid pressure hPa : 750  Overflow quantity ccm/10s : 97.2  SV travel mm : 3.4  Tolerance mm : 0.4  Check tolerance mm : 0.8  Shutoff solenoid Volt : 12  Rated speed rpm : 2000  Aneroid pressure hPa : 750  DELIVERY AND BREAKAWAY CHARACTERISTIC hPa : 750  SV travel mm : 0.8  Tolerance mm : 2525  SV travel mm : 0.4  SV travel mm : 0.8  Tolerance mm : 0.4  DELIVERY AND BREAKAWAY CHARACTERISTIC hPa : 750  Rated speed rpm : 2525  SV travel mm : 0.4  Shutoff solenoid volt : 12  Tolerance mm : 0.4  Tolerance mm : 0.4  Tolerance mm : 750  Del. quantity cm3/1000 strokes : 20.0  Tolerance	Volt	:	12	Ī	Rated speed rom		2100
Aneroid pressure hPa : 750  SV travel mm : 3.4 Tolerance mm : 0.4 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  SV travel mm : 0.8 Tolerance mm : 2525  SV travel mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2525  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  Rated speed rpm : 2525  Aneroid pressure hPa : 750  Del. quantity cm3/1000 strokes : 20.0 Tolerance	Rated speed rpm	:	750	+			2100
SV travel mm : 3.4 Tolerance mm : 0.4 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  SV travel mm : 0.8 Tolerance ccm/10s : 41.6  Check tolerance ccm/10s : 55.5 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Rated speed rpm : 2525  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  Com/10s : 97.2  Tolerance  Check tolerance ccm/10s : 41.6  Check tolerance ccm/10s : 55.5  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 20.0 Tolerance	Aneroid pressure			+		:	750
SV travel mm : 3.4  Tolerance mm : 0.4  Check tolerance mm : 0.8  Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  SV travel mm : 0.8  Tolerance ccm/10s : 41.6  Check tolerance ccm/10s : 55.5  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750  SV travel mm : 0.8  Tolerance mm : 0.4  Shutoff solenoid Volt : 12  Tolerance  Tolerance  Tolerance  Tolerance  Tolerance  Tolerance  Tolerance  Tolerance	hPa	:	750	†		,	07.3
Tolerance mm : 0.4 Check tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Aneroid pressure hPa : 750  Rated speed rpm : 2525 Aneroid pressure hPa : 750 Shutoff solenoid Volt : 12  Tolerance  Ccm/10s : 41.6 Check tolerance	SV travel mm	•	3.4	Ī		•	71.2
tolerance mm : 0.8 Shutoff solenoid Volt : 12  Rated speed rpm : 2000 Aneroid pressure hPa : 750  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  Rated speed rpm : 2525 Aneroid pressure hPa : 750  Rated speed rpm : 2525 Aneroid pressure hPa : 750 Shutoff solenoid Volt : 12  Check tolerance  Check tolerance  Check tolerance  Check tolerance		:		+		:	41.6
Shutoff solenoid  Volt : 12  Rated speed rpm : 2000  Aneroid pressure  hPa : 750  SV travel mm : 0.8  Tolerance mm : 0.4  Shutoff solenoid  Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC  Rated speed rpm : 2525  Aneroid pressure  hPa : 750  Del. quantity  cm3/1000 strokes : 20.0  Tolerance			0.6	+			
Volt : 12  Rated speed rpm : 2000  Aneroid pressure hPa : 750  SV travel mm : 0.8  Tolerance mm : 0.4  Shutoff solenoid volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Aneroid pressure hPa : 750  Aneroid pressure hPa : 750  Del. quantity cm3/1000 strokes : 20.0  Tolerance		:	0.8	1			55 5
Rated speed rpm : 2000  Aneroid pressure hPa : 750  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC Rated speed rpm : 2525  Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 20.0 Tolerance		:	12	I		•	ر ، ر ر
Aneroid pressure hPa : 750  Rated speed rpm : 2525  SV travel mm : 0.8 Tolerance mm : 0.4 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTERISTIC  Rated speed rpm : 2525  Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 20.0 Tolerance				+		:	12
hPa : 750  Rated speed rpm : 2525  SV travel mm : 0.8  Tolerance mm : 0.4  Shutoff solenoid  Volt : 12  Rated speed rpm : 2525  Aneroid pressure  hPa : 750  Del. quantity  cm3/1000 strokes : 20.0  Tolerance		:	2000	+	NELTHERY AND DOCA	1/811/	AV 011404075070710
Rated speed rpm : 2525  SV travel mm : 0.8	•	:	750	1	NELTACK! WAS BKEN	KAW/	AT UNAKACIERISTIC
Tolerance mm : 0.4	111 G	•		+		:	2525
Shutoff solenoid Pel. quantity Volt : 12 cm3/1000 strokes : 20.0 Tolerance		:		+			750
Volt : 12 + cm3/1000 strokes : 20.0 + Tolerance		:	U.4	1		:	750
+ Tolerance		:	12	I		:	20.0
Timing devices $\frac{1}{2}$ on $\frac{7}{1000}$ strokes $\frac{1}{2}$ 0		-	. 5	+	Tolerance		
	Timing device		100	+	cm3/1000 strokes	:	2.0
solenoid Volt : 100 + Check tolerance + cm3/1000s. : 4.0	בסנפוטים יסנד	•	100	Ţ		:	4.0

Shutoff solenoid		4.0	+	<b>-</b>		700	
Volt	:	12	†	Rated speed rpm	:	700	
5		2/00	†	Aneroid pressure		400	
Rated speed rpm	:	2400	†	hPa	:	180	
Aneroid pressure		750	†	Tolerance			
hPa	:	750	†	cm3/1000 strokes	:	0.5	
Del. quantity		74 5	†	Check tolerance			
cm3/1000 strokes	:	34.5	+	cm3/1000s.	:	0.5	
Tolerance			†	Check tolerance			
cm3/1000 strokes	:	5.0	†	cm3/1000s.	:	0.5	
Check tolerance			†	Shutoff solenoid			
cm3/1000s.	;	6.0	+	Volt	:	12	
Shutoff solenoid		•	†				
Volt	:	12	+	Rated speed rpm	:	700	
			+	Aneroid pressure			
Rated speed rpm	:	2750	+	hPa	:	300	
Aneroid pressure			+	Del. quantity			
hPa	:	750	+	cm3/1000 strokes	:	6.0	
Del. quantity			+	Check tolerance			
cm3/1000 strokes	:	1.5	+	cm3/1000S.	:	1.0	
Tolerance			+	Shutoff solenoid			
cm3/1000 strokes	:	1.5	+	Volt	:	12	
Check tolerance			+				
cm3/1000s.	:	1.5	+				
Shutoff solenoid			+	<del></del>		<del></del>	
Volt	:	12	+	ELECTR. SHUTOFF			
			+	CONTROL LEVER, ID	LE S	TOP	
Rated speed rpm	:	2100	+	•			
Aneroid pressure			+	Rated speed rpm	:	450	
hPa .	:	750	1	Del. quantity			
Del. quantity			+	cm3/1000 strokes	:	1.5	
cm3/1000 strokes	:	46.2	1	Tolerance			
Tolerance			Ļ	cm3/1000 strokes	:	1.5	
	:	1.0	. ↓	Check tolerance	-		
Check tolerance	-		<u> </u>	cm3/1000s.	:	1.5	
cm3/1000s.	:	2.2	1	Spread			
Shutoff solenoid	•	_ · <del>_</del>	1	cm3/1000 strokes	:	5.0	
Volt	:	12	Ļ		Ť		
	•		1	FULL-LOAD STOP CO	NTRO	LEVER	
Rated speed rpm	:	450	<u> </u>				
Del. quantity	•		1	Rated speed rpm	:	450	
cm3/1000 strokes	•	44.7	1	Del. quantity	•		
Tolerance	•		1	cm3/1000 strokes	•	1.5	
cm3/1000 strokes	:	3.0	1	Tolerance	•		
Check tolerance	•		1	cm3/1000 strokes	:	1.5	
cm3/1000s.	:	5.5	1	Spread	•	, • •	
Shutoff solenoid	-	J•J	1	cm3/1000 strokes	:	5.0	
Volt	:	12	1	Check tolerance	•	3.0	
1366	•	• •	1	cm3/1000s.	•	1.5	
Rated speed rpm	:	1250	1	Spread	•	,	
Aneroid pressure	•	1230	1		:	5.0	
hPa	•	750	1	Simor room deroked	•	٥.٠	
Del. quantity	•	, ,,,	I				
cm3/1000 strokes	•	46.5	$\mathbf{I}$				
Tolerance	•	<del>70</del> .5	I				
cm3/1000 strokes		0.5	I				
Check tolerance	•	ر.ن	I				
cm3/1000s.		2.2	I				
Shutoff solemoid	•	۲. ۲	I	START TRANSITION			
Volt		12	I	OTALL INVINSTITON			
VOLL	•	1 €	T				

380 Rated speed rpm

Del. quantity

41.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

180 Rated speed rpm

Del. quantity cm3/1000 strokes : 45.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 3,7 Dimension K mm Tolerance mm : +-0,1 Dimension KF mm : 6,0 : +-0,2 Tolerance mm

Dimension MS mm : 1,2 : +-0,2 Tolerance mm

**MICROSWITCH** 

SET

: 0,8...3,0 mm

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

: 36,0..40,0 position YA mm

Control lever

position YB mm : 48,6..58,4

ROSCH INJ. PUMP T	EST SPECIFICATIONS
Note remarks	EST OF EST TON TONO
Edition Test oil	: 30.01.96 : ISO 4113
Part no. Pump designation	: 0 460 426 243 : VE6/12F1100R620
Customer-spec. in Customer Motor	formation : CASE : 6T 590
TEST BENCH REQUIR	EMENTS
Calibrating-oil return temperature °C Tolerance °C	: 45 : 1
Overflow restriction mm	: 0.55
Inlet press, bar Tolerance bar	: 0.35 : 0.05
Test nozzle holde assembly	: 1 688 901 027
Opening pressure bar Tolerance bar	: 250 : 3
Test lines	: 1 680 750 000
Outside diameter	: 6.00
x inside diameter x length mm	: 2.00 : 840
REMARKS	

(as of UT) mm Tolerance mm Check tolerance mm	: 0,3 : +-0,02 : +-0,04
INJECTION PUMP SE	ETTING VALUES
TIMING DEVICE TRA	NVEL
Rated speed rpm	: 750
Setting mm Tolerance mm Shutoff solenoid Volt	: 2.6 : 0.2 : 24
SUPPLY PUMP PRESS	SURE
Rated speed rpm	: 750
Setting hPa Tolerance hPa Shutoff solenoid	: 5.7 : 0.3
Volt	: 24
	WITHOUT BOOST PRESSURE
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	
cm3/1000 strokes Spread	
cm3/1000 strokes Shutoff solenoid Volt	: 4.0
IDLE SETTING	
Rated speed rpm	: 350
Del. quantity cm3/1000 strokes	: 20.0
Tolerance cm3/1000 strokes	: 3.5
Shutoff solenoid Volt	: 24
Spread cm3/1000 strokes	: 9.0
Check tolerance cm3/1000s.	: 9.0
FULL-LOAD SPEED RE	EGULATION
Rated speed rpm	: 1140
Del. quantity cm3/1000 strokes	: 60.0
Tolerance cm3/1000 strokes	: 3.0

Prestroke

BEGINNING OF DELIVERY

Shutoff solenoid Volt	: 24	+ Overflow quantity + ccm/10s : 63.8
STARTING FUEL DEL	IVERY	+ Tolerance + ccm/10s : 22.2
Rated speed rpm Del. quantity	: 100	Check tolerance : 22.2
cm3/1000 strokes Tolerance		+ Shutoff solenoid + Volt : 24
cm3/1000 strokes Shutoff solenoid		delivery and breakaway characteristic
Volt	: 24	Rated speed rpm : 1140
		+ Del. quantity - cm3/1000 strokes : 60.0
INTECTION DUMP TO	CCT CDECTETCATIONS	Tolerance : 3.0
	ST SPECIFICATIONS	Check tolerance : 6.0
TIMING DEVICE CHA		+ Shutoff solenoid + Volt : 24
Rated speed rpm	: 1000	Rated speed rpm : 1175
SV travel mm Tolerance mm	: 4.4 : 0.4	Del. quantity cm3/1000 strokes : 30.0
Check tolerance mm	: 0.7	Check tolerance : 15.0
Shutoff solenoid Volt	: 24	+ Shutoff solenoid + Volt : 24
SUPPLY PUMP PRESS	TURE CHARACTERISTIC	Rated speed rpm : 1240
Rated speed rpm	: 1000	+ Del. quantity + cm3/1000 strokes : 1.5
Supply pomp	: 6.7	Tolerance cm3/1000 strokes : 1.5
Tolerance hPa Shutoff solenoid	: 0.3	Check tolerance cm3/1000s. : 1.5
Volt	: 24	+ Shutoff solenoid + Volt : 24
Rated speed rpm Supply pomp	; 500	Rated speed rpm : 1100
pressure bar Tolerance hPa	: 4.7 : 0.3	+ Del. quantity + cm3/1000 strokes : 61.0
Shutoff solenoid Volt	: 24	+ Tolerance + cm3/1000 strokes : 1.5
OVERFLOW QUANTITY		+ Check tolerance + cm3/1000S. : 3.0 + Shutoff solenoid
Rated speed rpm	: 1100	+ Volt : 24
Overflow quantity ccm/10s	: 83.3	Rated speed rpm : 750
Tolerance ccm/10s	: 27.7	+ Del. quantity + cm3/1000 strokes : 58.0
Check tolerance	. 27 7	Tolerance cm3/1000 strokes : 2.0
ccm/10s Shutoff solenoid	: 27.7	+ Check tolerance + cm3/1000S. : 4.0
Volt	: 24	+ Shutoff solenoid + Volt : 24
Rated speed rpm	: 500	†

Rated speed rpm	: 500	+
Del. quantity		+
cm3/1000 strokes	: 35.0	†
Tolerance		†
cm3/1000 strokes	: 6.0	+
Check tolerance		+
cm3/1000s.	: 6.0	† START TRANSITION
Shutoff solenoid		t
Volt	: 24	+ Rated speed rpm : 250
		+ Del. quantity
Rated speed rpm	: 900	+ cm3/1000 strokes : 78.0
Del. quantity	44.5	+ Tolerance
cm3/1000 strokes	: 61.0	+ cm3/1000 strokes : 15.0
Tolerance		+ Shutoff solenoid
cm3/1000 strokes	: 0.5	† Volt : 24
Check tolerance	: 3.0	<u>†</u>
cm3/1000s. Shutoff solenoid	; 3.0	Rated speed rpm : 150
Volt	: 24	+ Rated speed rpm : 150 + Del. quantity
VOCE	. 24	cm3/1000 strokes : 100.0
		Tolerance
	<del></del>	
ELECTR. SHUTOFF		+ Shutoff solenoid
CONTROL LEVER, ID	LE STOP	+ Volt : 24
		+
Rated speed rpm	: 500	<del></del>
Del. quantity		ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes	: 1.5	+
Tolerance		→ Dimension KF mm : 5,2
cm3/1000 strokes	: 1.5	+ Tolerance mm : +-0,2
Check tolerance		+ MS1 dimension mm : 1,36
cm3/1000s.	: 1.5	+ Tolerance mm : +0,15/-0,1
5:11 1 015 OTOB 00	N700   EUED	†
	NIKUL LEVEK	†
FULL-LOAD STOP CO		<del>*</del>
		CONTROL LEVER POSITION
Rated speed rpm		CONTROL LEVER POSITION
Rated speed rpm Del. quantity	: 500	CONTROL LEVER POSITION SET
Rated speed rpm Del. quantity cm3/1000 strokes	: 500	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 500 : 1.5	+ SET +
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 500 : 1.5	SET Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 500 : 1.5	+ SET +
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 500 : 1.5 : 1.5	Control lever position YA mm : 34,838,8 Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 500 : 1.5 : 1.5	Control lever position YA mm : 34,838,8
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY	: 500 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8 Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY Rated speed rpm	: 500 : 1.5 : 1.5	Control lever position YA mm : 34,838,8 Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY Rated speed rpm Del. quantity	: 500 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8 Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes	: 500 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5	Control lever position YA mm : 34,838,8 Control lever
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 500 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 24	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 1.5	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 1.5 : 425	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 24	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  IDLE DELIVERY  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: 500 : 1.5 : 1.5 : 1.5 : 520 : 1.5 : 1.5 : 24 : 425 : 7.0	Control lever position YA mm : 34,838,8  Control lever position YB mm : 39,945,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20,10,95 Edition : ISO 4113 Test oil

: 0 460 484 081 Part no. Pump designation : VE4/8F2400R622

Customer-spec. information : FORD Customer

: 1,8 L IDI Motor Power KW 44.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,85 Tolerance mm : +-0,05

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

5.1 Setting mm : Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa 6.8 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2550

Del. quantity

cm3/1000 strokes : 20.0

Tolerance 3.0

cm3/1000 strokes :

Shutoff solenoid

12 Volt

STARTING FUEL DEL	IVERY	‡	Tolerance mm Check	:	0.4	
Rated speed rpm Del. quantity	: 100	‡	tolerance mm Shutoff solenoid	:	0.8	
cm3/1000 strokes Tolerance	: 60.0	1	Volt	:	12	
cm3/1000 strokes Shutoff solenoid		1	Rated speed rpm	:	400	
Volt	: 12	+	SV travel mm Tolerance mm	:	2.4 0.1	
		+	Check tolerance mm	:	1.0	
LOAD-DEPENDENT ST SETTING	ART OF DELIVE	RY	Shutoff solenoid Volt	:	12	
	<b></b>	Ŧ				
DELIVERY DIFFEREN		‡	KSB/AFB Volt	:	12	
Rated speed rpm Del. quantity		‡	Rated speed rpm			
cm3/1000 strokes	: -9.4	†	SV travel mm	:	4.4	
Tolerance cm3/1000 strokes	: 1.0	Ī	Tolerance mm Check	:	1.2	
Shutoff solenoid	. 1.0	1	tolerance mm	:	1.3	
Volt	: 12	+	Shutoff solenoid			
		+	Volt	:	12	
PRESSURE DIFFEREN	CE	1	KSB/AFB Volt	:	12	
Rated speed rpm	: 1200	+				
Del. quantity		+	SUPPLY PUMP PRESS	URE	CHARACTERIS	STIC
cm3/1000 strakes	0 2	1				
cm3/1000 strokes Tolerance	: -0.2	‡			2400	
Tolerance cm3/1008 strokes		+ + +	Rated speed rpm Supply pomp			
Tolerante cm3/1008 strokes Shutoff solenoid	: 0.1	† †	Rated speed rpm Supply pomp pressure bar	:	9.9	
Tolerance cm3/1008 strokes		† †	Rated speed rpm Supply pomp pressure bar Tolerance hPa	:		
Tolerante cm3/1008 strokes Shutoff solenoid	: 0.1 : 12	E +	Rated speed rpm Supply pomp pressure bar	:	9.9	
Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm	: 0.1 : 12 VEL DIFFERENC	+ + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm	:	9.9 0.3 12	
Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity	: 0.1 : 12 VEL DIFFERENC : 1200	E +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Supply pomp	:	9.9 0.3 12 750	
Tolerance cm3/1000 strokes Shutoff solenoid Volt TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 0.1 : 12 VEL DIFFERENC : 1200 : -0.8	E +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Supply pomp pressure bar Tolerance hPa	:	9.9 0.3 12	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 0.1 : 12 VEL DIFFERENC : 1200 : -0.8	E +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid	:	9.9 0.3 12 750 4.6 0.3	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 0.1 : 12 VEL DIFFERENC : 1200 : -0.8 : 0.1	E +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Supply pomp pressure bar Tolerance hPa	:	9.9 0.3 12 750 4.6	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 0.1 : 12 VEL DIFFERENC : 1200 : -0.8	E + + + + + + + + + + + + + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE TIMING DEVICE CHA	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT RACTERISTIC	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY Rated speed rpm Overflow quantity	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3 12 2400 97.2	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE TIMING DEVICE CHA  Rated speed rpm Tolerance mm	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3 12	
Tolerance cm3/1008 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE  TIMING DEVICE CHA  Rated speed rpm Tolerance mm Check	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT  RACTERISTIC : 2400 : 0.4	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3 12 2400 97.2 41.6	
Tolerance cm3/1000 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE TIMING DEVICE CHA  Rated speed rpm Tolerance mm	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT  RACTERISTIC : 2400 : 0.4 : 0.8	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3 12 2400 97.2 41.6	
Tolerance cm3/1008 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE  TIMING DEVICE CHA  Rated speed rpm Tolerance mm Check tolerance mm	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT  RACTERISTIC : 2400 : 0.4	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s	: : : : : : : : : : : : : : : : : : : :	9.9 0.3 12 750 4.6 0.3 12 2400 97.2 41.6	
Tolerance cm3/1008 strokes Shutoff solenoid Volt  TIMING-DEVICE TRA  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TE  TIMING DEVICE CHA  Rated speed rpm Tolerance mm Check tolerance mm Shutoff solenoid	: 0.1 : 12  VEL DIFFERENC : 1200 : -0.8 : 0.1 : 12  ST SPECIFICAT  RACTERISTIC : 2400 : 0.4 : 0.8	+ + + + + + + +	Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid		9.9 0.3 12 750 4.6 0.3 12 2400 97.2 41.6	

Tolerance			1	Del. quantity			
ccm/10s	:	22.2	-	cm3/1000 strokes Tolerance	:	29.3	
Check tolerance	•	22.2	+	cm3/1000 strokes Check tolerance	:	1.5	
Shutoff solenoid Volt	:	12	1	cm3/1000s. Shutoff solenoid	:	2.3	
DELIVERY AND BREA	KAWA		+	Volt	:	12	
			+	Rated speed rpm	:	450	
Rated speed rpm Del. quantity			‡	Del. quantity cm3/1000 strokes	:	31.5	
cm3/1000 strokes Tolerance		· · · -	‡	Tolerance cm3/1000 strokes	:	2.0	
cm3/1000 strokes Check tolerance		3.0	<b>†</b>	Check tolerance cm3/1000s.	:	2.8	
cm3/1000s. Shutoff solenoid	:	4.5	‡	Shutoff solenoid Volt	:	12	
Volt	:	12	+				
Rated speed rpm	:	2625	‡	Rated speed rpm Del. quantity			
Del. quantity cm3/1000 strokes	•	13.5	<u> </u>	cm3/1000 strokes Tolerance	:	29.0	
Check tolerance			+	cm3/1000 strokes	;	0.2	
cm3/1000S. Shutoff solenoid	:	<b>ა.</b> 0	†	Check tolerance cm3/1000s.		1.7	
Volt	:	12	Ŧ	Shutoff solenoid	•		
Rated speed rpm	:	2950	Ŧ	Volt	:	12	
Del. quantity cm3/1000 strokes	:	1.0	‡		<del></del>		
Tolerance				ELECTR. SHUTOFF			
cm3/1000 strokes	:	1.0	Ī	CONTROL LEVER, ID	LE ST	OP	
cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 1.0		CONTROL LEVER, ID			
cm3/1000 strokes Check tolerance	:		† † †	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	:		
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm	:	1.0	† † † † †	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: :	425	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	:	1.0 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	425 1.5	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1.0 12 2400 29.3	+++++++++++++++++++++++++++++++++++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : :	425 1.5 1.5 1.5	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 12 2400 29.3	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : :	425 1.5 1.5 1.5 5.0	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.0 12 2400 29.3 1.0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO	: : : : NTROL	1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1.0 12 2400 29.3 1.0 2.0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes	: : : : NTROL	1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 12 2400 29.3 1.0 2.0 12	· <del>* * * * * * * * * * * * * * * * * *</del>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : NTROL :	1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 12 2400 29.3 1.0 2.0 12	· <del>* * * * * * * * * * * * * * * * * * *</del>	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes	: : : : NTROL : :	1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		1.0 12 2400 29.3 1.0 2.0 12 750 28.4	+ + + + +	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : NTROL : :	1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	: : : : NTROL : :	425 1.5 1.5 1.5 5.0 LEVER 425 1.5 1.5 5.0 1.5	

			1	Oh	
·			‡	Check tolerance cm3/1000s. Shutoff solenoid	; 2.5
CHECKING LOAD-DEF	-	ENT	1	Volt	: 12
DELIVERY DIFFEREN			Ī	Rated speed rpm Del. quantity	: 600
		4000	<del>-</del>	cm3/1000 strokes	: 10.0
Rated speed rpm Del. quantity			‡	Tolerance cm3/1000 strokes	: 0.5
cm3/1000 strokes Tolerance			‡	Check tolerance cm3/1000s.	
cm3/1000 strokes Check tolerance	:	4.0	‡	Shutoff solenoid Volt	: 12
cm3/1000s. Shutoff solenoid		4.0	<u> </u>	START TRANSITION	
Volt	:	12	1	Rated speed rpm	: 500
TIMING-DEVICE TRA	VEL	DIFFERENCE	+	Del. quantity	
Rated speed rpm	:	1200	‡	cm3/1000 strokes Tolerance	
Del. quantity cm3/1000 strokes	:	-0.8	†	cm3/1000 strokes Shutoff solenoid	
Tolerance cm3/1000 strokes Check tolerance	:	0.1	+++++++++++++++++++++++++++++++++++++++	Volt	: 12
cm3/1000s. Shutoff solenoid	:	0.1	$\frac{1}{1}$	Rated speed rpm Del. quantity	: 275
Volt	:	12	Ŧ	cm3/1000 strokes	: 65.0
DELIVERY DIFFEREN	ICE		Ī	Tolerance cm3/1000 strokes Shutoff solenoid	
Rated speed rpm Del. quantity	:	1200	1	Volt	: 12
cm3/1000 strokes Tolerance	:	5.0	<u> </u>	ACCEMBLY AND AD HE	USTMENT DIMENSIONS
cm3/1000 strokes	:	3.0	Ŧ		
Check tolerance cm3/1000s.	:	3.0	Ŧ	Dimension K mm Tolerance mm	: +0,1
Shutoff solenoid Volt	:	12	‡	Dimension KF mm Tolerance mm	: +-0,2
TIMING-DEVICE TRA	VEL	DIFFERENCE	‡	Dimension MS mm Tolerance mm	
Rated speed rpm		1200	‡	POTENTIOMETER	
Tolerance mm Check	:	0.4	‡	SET	
tolerance mm Shutoff solenoid	:	0.4	‡	<ol> <li>measurement voltage Volt</li> </ol>	: 1= 3,4 V
Volt	:	12	+	<ol><li>measurement voltage Volt</li></ol>	·
EXHAUST-GAS RECIR	CUL	ATION	<del></del>	MICROSWITCH SET	
Rated speed rpm	:	1250	Ŧ		. 3-ADE 42.0
Del. quantity cm3/1000 strokes	:	20.0	‡	mm	: 1=ARF 12,0 : 2=ARF 12,0
Tolerance cm3/1000 strokes	:	0.5	‡	CONTROL LEVER POS	ITION

Control lever

: 38,0..42,0 position YA mm

Control lever position YB mm : 57,3..66,3

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.10.95 Test oil : ISO 4113

Part no. : 0 460 484 082 Pump designation : VE4/8F2400R622-7

Customer-spec. information Customer : FORD

Motor : 1,8 L IDI
Power KW : 44.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overf ...

restration mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,85 Tolerance mm : +-0,05

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 5.1 Tolerance mm : 0.2

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa : 6.8
Tolerance hPa : 0.3
Shutoff solenoid

Volt :

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm : 1500

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2550

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

G01

STARTING FUEL DEL	.IVERY	† Tolerance mm : 0.4
Rated speed rpm	: 100	+ Check + tolerance mm : 0.8
Del. quantity cm3/1000 strokes	: 60.0	+ Shutoff solenoid + Volt : 12
Tolerance cm3/1000 strokes	: 10.0	+ Rated speed rpm : 400
Shutoff solenoid Volt	: 12	SV travel mm : 2.4
1011		+ Tolerance mm : 0.1 + Check
LAAN NEDENDENT CT	TART OF RELIVERY	tolerance mm : 1.0 Shutoff solenoid
LOAD-DEPENDENT ST SETTING	ART OF DELIVERT	Volt : 12
DELIVERY DIFFEREN	ICE	KSB/AFB Volt : 12
Rated speed rpm	: 1200	Rated speed rpm : 1000
Del. quantity cm3/1000 strokes	: -9.4	+ SV travel mm : 4.4
Tolerance cm3/1000 strokes	: 1.0	+ Tolerance mm : 1.2 + Check
Shutoff solenoid Volt		tolerance mm : 1.3 Shutoff solenoid
		Volt : 12
PRESSURE DIFFEREN		KSB/AFB Volt : 12
Rated speed rpm Del. quantity	: 1200	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
cm3/1000 strokes Tolerance	: -0.2	+ Rated speed rpm : 2400
cm3/1000 strokes Shutoff solenoid	: 0.1	Supply pomp  pressure bar : 9.9
Volt	: 12	+ Tolerance hPa : 0.3
TIMING-DEVICE TRA	VEL DIFFERENCE	+ Shutoff solenoid + Volt : 12
Rated speed rpm	: 1200	+ Rated speed rpm : 750
Del. quantity cm3/1000 strokes		+ Supply pomp + pressure bar : 4.6
Tolerance cm3/1000 strokes		Tolerance hPa : 0.3 Shutoff solenoid
Shutoff solenoid		Volt : 12
Volt	: 12	T OVERFLOW QUANTITY
INJECTION-PUMP TE	ST SPECIFICATIONS	Rated speed rpm : 2400
TIMING DEVICE CHA	RACTERISTIC	+ Overflow quantity + ccm/10s : 97.2
Rated speed rpm	: 2400	+ Tolerance + ccm/10s : 41.6
Tolerance mm Check	: 0.4	+ Check tolerance
tolerance mm Shutoff solenoid	: 0.8	+ ccm/10s : 41.6 + Shutoff solenoid
Voit	: 12	Volt : 12
Rated speed rpm	: 800	Rated speed rpm : 450
SV travel mm	: 1.5	+ Overflow quantity + ccm/10s : 63.8

G02

Tolerance			+	Del. quantity		~~ =	
ccm/10s	:	22.2	+	cm3/1000 strokes	:	29.3	
			+	Tolerance			
Check tolerance			+	cm3/1000 strokes	:	1.5	
ccm/10s	:	22.2	+	Check tolerance			
Shutoff solenoid			1	cm3/1000s.	•	2.3	
Volt	•	12	1	Shutoff solenoid	•	2.5	
Voce	•	16	T	Volt	•	12	
DEL TUEDY AND DOEA	L/ ALLI/	AV CHADACTEDICTIC	Ţ	VOCC	•	12	
DELIVERY AND BREA	KAW/	AT CHARACTERISTIC	<b>†</b>	5 1 1 1 1		150	
			†	Rated speed rpm	:	450	
Rated speed rpm	:	2550	+	Del. quantity			
Del. quantity			+	cm3/1000 strokes	:	31.5	
cm3/1000 strokes	:	20.0	+	Tolerance			
Tolerance			+	cm3/1000 strokes	:	2.0	
cm3/1000 strokes	:	3.0	+	Check tolerance			
Check tolerance			1	cm3/1000s.	:	2.8	
cm3/1000s.	•	4.5	1	Shutoff solenoid	•	2.0	
Shutoff solenoid	•	7.5	1	Volt		12	
		12	T	VOCC	•	1 6	
Volt	•	12	T	Datad assaul assa		4500	
5		2425	Ť	Rated speed rpm	:	1500	
Rated speed rpm	:	2625	+	Del. quantity			
Del. quantity		_	+	cm3/1000 strokes	:	29.0	
cm3/1000 strokes	:	13.5	+	Tolerance			
Check tolerance			+	cm3/1000 strokes	:	0.2	
cm3/1000s.	:	6.0	+	Check tolerance			
Shutoff solenoid			1	cm3/1000s.	:	1.7	
Volt	•	12	1	Shutoff solenoid			
1011	•	, 2	1	Volt		12	
Rated speed rpm	:	2950	1	1000	•	1 2	
	•	2930	T				
Del. quantity		1.0	†				
cm3/1000 strokes	:	1.0	Ŧ	SI SOTO OUNTOSS			
cm3/1000 strokes Tolerance			+	ELECTR. SHUTOFF			<del></del>
cm3/1000 strokes Tolerance cm3/1000 strokes		1.0 1.0	† + + +	ELECTR. SHUTOFF CONTROL LEVER, ID	LE ST	OP	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		1.0	† † † †	CONTROL LEVER, ID			
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:		† + + +				
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0	† + + + +	CONTROL LEVER, ID			
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.0	† + + + +	CONTROL LEVER, ID	:		
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0 1.0	++++++	CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	:	425	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: :	1.0 1.0 12	++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	425 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm	: :	1.0 1.0	+++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	425	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity	:	1.0 1.0 12 2400	++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	425 1.5 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes	:	1.0 1.0 12 2400	++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	425 1.5 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1.0 1.0 12 2400 29.3	++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : :	425 1.5 1.5 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1.0 1.0 12 2400 29.3	++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : :	425 1.5 1.5 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.0 1.0 12 2400 29.3 1.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : :	425 1.5 1.5 1.5 5.0	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 1.0 12 2400 29.3	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : :	425 1.5 1.5 1.5 5.0	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0 1.0 12 2400 29.3 1.0 2.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO	: : : : NTROL	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 1.0 12 2400 29.3 1.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO	: : : : NTROL	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0 1.0 12 2400 29.3 1.0 2.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity	: : : : : NTROL	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	1.0 1.0 12 2400 29.3 1.0 2.0	++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes	: : : : : NTROL	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	1.0 1.0 12 2400 29.3 1.0 2.0 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity	: : : : : NTROL	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	1.0 1.0 12 2400 29.3 1.0 2.0 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes	: : : : NTROL :	425 1.5 1.5 1.5 5.0 LEVER	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 1.0 12 2400 29.3 1.0 2.0 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : NTROL :	425 1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread	: : : : NTROL :	425 1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes		1.0 1.0 12 2400 29.3 1.0 2.0 12	++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Spread cm3/1000 strokes	: : : : NTROL :	425 1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	: : : : NTROL : :	425 1.5 1.5 5.0 LEVER 425 1.5 5.0	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s.	: : : : NTROL : :	425 1.5 1.5 1.5 5.0 LEVER 425 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5 2.3	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : NTROL : :	425 1.5 1.5 5.0 LEVER 425 1.5 5.0 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s.	: : : : NTROL : :	425 1.5 1.5 5.0 LEVER 425 1.5 5.0 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5 2.3 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : NTROL : :	425 1.5 1.5 5.0 LEVER 425 1.5 5.0 1.5	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		1.0 1.0 12 2400 29.3 1.0 2.0 12 750 28.4 1.5 2.3 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Spread cm3/1000 strokes FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : NTROL : :	425 1.5 1.5 5.0 LEVER 425 1.5 5.0 1.5	

		+ Check tolerance cm3/1000s.	: 2.5
CHECKING LOAD-DEF	PENDENT	Shutoff solenoid	: 12
START OF DELIVERY		+	
DELIVERY DIFFEREN	)CE	+ Rated speed rpm + Del. quantity	: 600
DELIVERY DIFFEREN	ICE	cm3/1000 strokes	: 10.0
Rated speed rpm	: 1200	+ Tolerance	0.5
Del. quantity cm3/1000 strokes	: -10.6	+ cm3/1000 strokes + Check tolerance	: 0.5
Tolerance		+ cm3/1000s.	
cm3/1000 strokes	: 4.0	+ Shutoff solenoid	: 12
Check tolerance cm3/1000s.	: 4.0	† Volt	; 12
Shutoff solenoid		+ START TRANSITION	
Volt	: 12	Pated speed name	: 500
TIMING-DEVICE TRA	VEL DIFFERENCE	+ Rated speed rpm + Del. quantity	• 000
		+ cm3/1000 strokes	: 32.0
Rated speed rpm Del. quantity	: 1200	+ Tolerance + cm3/1000 strokes	: 6.0
cm3/1000 strokes	: -0.8	+ Shutoff solenoid	
Tolerance	: 0.1	† Volt	: 12
cm3/1000 strokes Check tolerance		Ī	
cm3/1000s.	: 0.1	Rated speed rpm	: 275
Shutoff solenoid Volt	: 12	+ Del. quantity + cm3/1000 strokes	: 65.0
VOCC	. 12	+ Tolerance	
DELIVERY DIFFEREN	CE	+ cm3/1000 strokes	
Rated speed rpm	: 1200	+ Shutoff solenoid + Volt	: 12
Del. quantity		+	
cm3/1000 strokes Tolerance	: 5.0	ASSEMBLY AND ADJU	ISTMENT DIMENSION
cm3/1000 strokes	: 3.0	T AGOERDEY AND ABOUT	OTTENT DITLENOIS
Check tolerance		Dimension K mm	
cm3/1000S. Shutoff solenoid	: 3.0	+ Tolerance mm + Dimension KF mm	: +-0,1 : 6,0
Volt	: 12	+ Tolerance mm	: +-0,2
TIMING-DEVICE TRA	VEL DIFFEDENCE	+ Dimension MS mm + Tolerance mm	
I THITIAG - DEVICE - THA		+	
Rated speed rpm	: 1200	+ POTENTIOMETER	
Tolerance mm Check	: 0.4	+ SET	
tolerance mm	: 0.4	1. measurement	. 4 - 7 /
Shutoff solenoid Volt	: 12	+ voltage Volt + 2. measurement	: 1 = 3,4 V
VOLL	. 12	voltage Volt	: 2 = 1,7  V
EXHAUST-GAS RECIR	CIU ATTON	— † MICROSWITCH	
CANADO! GAO KEUIK		SET	
Rated speed rpm	: 1250	†	. 1-ADE 12 O
Del. quantity cm3/1000 strokes	: 20.0	+ mm +	: 1=ARF 12,0 : 2=ARF 12,0
Tolerance		+	·
cm3/1000 strokes	: 0.5	→ CONTROL LEVER POS	ITION

Control lever

position YA mm : 38,0..42,0

Control lever position YB mm : 57,3..66,3

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 31.10.95 Edition : ISO 4113 Test oil

: 0 460 426 242 Part no. Pump designation : VE6/12F1350R623

Customer-spec. information : IVECO-FIAT Customer

: 8060.45B.5100 Motor

Power KW 130.0

## TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm 1000 Aneroid pressure

1000 hPa

Setting mm 2.0 Tolerance mm 0.1 Shutoff solenoid

24 Volt

KSB/AFB Volt 24

## SUPPLY PUMP PRESSURE

Rated speed rpm 1000 Aneroid pressure

hPa

1000

Setting hPa 6.8 Tolerance hPa 0.3 Shutoff solenoid Volt 24

KSB/AFB Volt 24

# FULL-LOAD DELIVERY WITH BOOST PRESSURE

700 Rated speed rpm Aneroid pressure

1000 hPa Del. quantity

cm3/1000 strokes : 79.0

Tolerance cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. 5.0

Shutoff solenoid 24 Volt

24 KSB/AFB Volt

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity cm3/1000 strokes : 58.5

Tolerance

cm3/1000 strokes 0.5 Shutoff solenoid

24 Volt Check tolerance cm3/1000s.5.0

24 KSB/AFB Volt

IDLE SETTING

Rated speed rpm	: 350	+ Aneroid pressure	
Del. quantity	. 4/ 0	† hPa	: 1000
cm3/1000 strokes Tolerance	: 16.0	t sy though me	: 0.8
cm3/1000 strokes	: 2.0	+ SV travel mm + Tolerance mm	: 0.3
Shutoff solenoid	. 2.0	Check	. 0.5
Volt	: 24	tolerance mm	: 0.7
Spread	•	+ Shutoff solenoid	
cm3/1000 strokes	: 5.0	+ Volt	: 24
Check tolerance		+	
cm3/1000s.	: 5.0	+ KSB/AFB Volt	: 24
		+ Setting point KSB	7/0
KSB/AFB Volt	: 24	+ Rated speed rpm	: 340
		+ Aneroid pressure + hPa	: 1000
FULL-LOAD SPEED R	DECLII ATTONI	I nra	. 1000
FOLL LOAD SPEED I	FROCHITOIA	T SV travel mm	: 2.0
Rated speed rpm	: 1500	+ Tolerance mm	: 0.2
Pressure hPa	: 1000	+ Check	
Del. quantity		+ tolerance mm	: 1.2
cm3/1000 strokes	: 40.0	+ Shutoff solenoid	
Tolerance		+ Volt	: 24
cm3/1000 strokes	: 3.0	+	
Shutoff solenoid		+ Rated speed rpm	: 470
Volt	: 24	+ Aneroid pressure	4000
MCD/AFD Mala	: 24	† hPa	: 1000
KSB/AFB Volt	: 24	T SV travel mm	: 3.2
STARTING FUEL DEL	TVERY	+ Tolerance mm	: 0.6
STANTING FOLL DEC	TACUI	Check	. 0.0
Rated speed rpm	: 100	+ tolerance mm	: 0.7
Del. quantity		+ Shutoff solenoid	
cm3/1000 strokes	: 85.0	+ Volt	: 24
Tolerance		+	
cm3/1000 strokes	: 25.0	SUPPLY PUMP PRESSU	RE CHARACTERISTIC
Shutoff solenoid	2/	†	. 4750
Volt	: 24	+ Rated speed rpm	: 1350
KSB/AFB Volt	: 24	+ Aneroid pressure + hPa	: 1000
KOD/APD VOLL	. 64	+ Supply pomp	. 1000
		+ pressure bar	: 8.7
		+ Tolerance hPa	: 0.3
		+ Shutoff solenoid	
		+ Volt	: 24
INJECTION-PUMP TE	ST SPECIFICATIONS	†	24
	D.4.0TED.7.0TT.0	+ KSB/AFB Volt	: 24
TIMING DEVICE CHA	RACTERISTIC	T Dotted anged nom	: 600
Batad speed nom	: 1100	+ Rated speed rpm + Aneroid pressure	: 600
Rated speed rpm Aneroid pressure	. 1100	+ hPa	: 1000
hPa	: 1000	- Supply pomp	. 1000
Tolerance mm	: 0.3	+ pressure bar	: 4.4
Check		+ Tolerance hPa	: 0.3
tolerance mm	: 0.7	+ Shutoff solenoid	
Shutoff solenoid	<b>.</b> .	† Volt	: 24
Volt	: 24	1/00/450 1/11	. 2/
PEDIATO VALL	• 2/	+ KSB/AFB Volt	: 24
KSB/AFB Volt	: 24	Rated speed rpm	: 470
Rated speed rpm	: 900	T Nateu Speed (pill	. 710
	. ,		

G07

Aneroid pressure hPa	:	1000	‡	Del. quantity cm3/1000 strokes	:	58.0
Supply pomp		7 0	+	Tolerance		۰ ۵
pressure bar Tolerance hPa	:	7.8 0.8	1	cm3/1000 strokes Check tolerance	:	8.0
Shutoff solenoid	•	0.0	I	cm3/1000s.	•	10.0
Volt	:	24	1	Shutoff solenoid	•	,0,0
			+	Volt	:	24
OVERFLOW QUANTITY	,		+			•
Datad agaid man		1750	†	KSB/AFB Volt	:	24
Rated speed rpm Ameroid pressure	:	1350	Ī	Rated speed rpm	:	1600
hPa	:	1000	1	Aneroid pressure	•	1000
Overflow quantity	•		+	hPa	:	1000
ccm/10s	:	83.3	+	Del. quantity		
Tolerance		77 7	†	cm3/1000 strokes	:	1.5
ccm/10s	:	27.7	1	Tolerance cm3/1000 strokes	:	1.5
Check tolerance			I	Check tolerance	•	1.5
ccm/10s	:	27.7	<del> </del>	cm3/1000s.	:	1.5
Shutoff solenoid			+	Shutoff solenoid		
Volt	:	24	+	Volt	:	24
KSB/AFB Volt		24	<u>†</u>	KSB/AFB Volt		24
KOB/AFB VOLL	•	24	I	NOD/AFD VOLC	•	24
Rated speed rpm	:	600	1	Rated speed rpm	:	600
Aneroid pressure			+	Aneroid pressure		
hPa	:	1000	+	hPa	:	350
Overflow quantity		63.8	†	Del. quantity		/0 F
ccm/10s Tolerance	•	03.0	Ī	cm3/1000 strokes Tolerance	:	68.5
ccm/10s	:	22.2	I	cm3/1000 strokes	:	0.5
	•		+	Check tolerance	•	
Check tolerance			+	cm3/1000s.	:	4.0
ccm/10s	:	22.2	+	Shutoff solenoid		27
Shutoff solenoid Volt		24	1	Volt	:	24
VOCE	•	24	I	KSB/AFB Volt	:	24
KSB/AFB Volt	:	24	+		•	-,
			+	Rated speed rpm	:	1350
DELIVERY AND BREA	KAWA	Y CHARACTERIST	IC +	Aneroid pressure		4000
Rated speed rpm	:	1500	†	hPa Del. quantity	:	1000
Aneroid pressure	•	1500	I		:	73.0
hPa	:	1000	1	Tolerance	•	,
Del. quantity			+	cm3/1000 strokes	:	1.5
	:	40.0	+	Check tolerance		7 -
Tolerance cm3/1000 strokes		3.0	†	cm3/1000s. Shutoff solenoid	:	3.5
Check tolerance	•	5.0	I	Volt	:	24
cm3/1000s.	:	6.0	1		•	
Shutoff solenoid			+	KSB/AFB Volt	:	24
Volt	:	24	†	<b>6</b> . <b>.</b>		4000
KSB/AFB Volt		24	İ	Rated speed rpm Aneroid pressure	:	1000
NOD/ATO VULL	:	<b>4</b>	I	hPa	:	1000
Rated speed rpm	:	1450	1	Del. quantity	•	
Aneroid pressure			+	cm3/1000 strokes	:	76.5
hPa	:	1000	+	Tolerance		2.0
			+	cm3/1000 strokes	•	2.0

Check tolerance			+	Del. quantity		
cm3/1000s.	•	3.5	1	cm3/1000 strokes		1.5
Shutoff solenoid	•	<b>3.</b> 9	1	Tolerance	•	1.5
Volt	•	24	1	cm3/1000 strokes	•	1.5
1011	•		1	Check tolerance	•	1.5
KSB/AFB Volt	•	24	1	cm3/1000S.	•	1.5
KOSI IKB VOCC	•	C-4	1	· · · · · · · · · · · · · · · · · · ·	•	1.5
Rated speed rpm	:	600	1			
Aneroid pressure	•		1	IDLE DELIVERY		
hPa	:	1000	1			
Del. quantity	·	, , , , ,	1	Rated speed rpm	;	425
cm3/1000 strokes	:	82.0	+	Del. quantity		
Tolerance			+	cm3/1000 strokes	:	1.5
cm3/1000 strokes	:	2.0	+	Tolerance		
Check tolerance			+	cm3/1000 strokes	:	1.5
cm3/1000s.	:	3.5	+	Check tolerance		
Shutoff solenoid			+	cm3/1000s.	:	1.5
Volt	:	24	+	Shutoff solenoid		
			+	Volt	:	24
KSB/AFB Volt	:	24	+			
		<b></b> -	+	KSB/AFB Volt	:	24
Rated speed rpm	:	700	+			
Aneroid pressure		4.000	+			
hPa	:	1000	+			
Del. quantity		70.0	†			
cm3/1000 strokes	:	79.0	†			
Tolerance		0.5	†	OTANT TOAMOTTTOM		
cm3/1000 strokes	:	0.5	†	START TRANSITION		
Check tolerance	_	3.5	†	Datad amond non		250
cm3/100GS. Shutoff solenoid	•	3.3	T	Rated speed rpm	:	230
Volt	•	24	T	Del. quantity cm3/1000 strokes		50.0
VOCE	•	24	Ι	Tolerance	•	50.0
			Ι	cm3/1000 strokes	•	17.0
MECHANICAL SHUTOF	F		1	Shutoff solenoid	•	17.0
MECHANICAE SHOTO	•		1	Volt	•	24
Rated speed rpm	: 1	350	1		•	
Aneroid pressure	•		1	KSB/AFB Volt	:	24
hPa	:	1000	†			
Del. quantity	•		+			
cm3/1000 strokes	:	1.5	+	Rated speed rpm	:	130
Tolerance			+	Del. quantity		
cm3/1000 strokes	:	1.5	+	cm3/1000 strokes	:	85.0
Spread			+	Tolerance		
cm3/1000 strokes	:	5.0	+	cm3/1000 strokes	:	25.0
Check tolerance			+	Shutoff solenoid		
cm3/1000s.	:	1.5	+	Volt	:	24
Spread			†			•
cm3/1000 strokes	:	5.0	†	KSB/AFB Volt	:	24
Shutoff solenoid			†			
Volt	:	24	†	ADDENOLY AND ACTIO		T NIMENOTONO
			†	ASSEMBLY AND ADJU	SIME	NT DIMENSIONS
KSB/AFB Volt	:	24	†	Dimensian V	. 7	1
		·	T	Dimension K mm Tolerance mm	: 3,	,0 -0,1
ELECTO CULTAGE			Ι	Dimension KF mm		
ELECTR. SHUTOFF	E 9T01		Ι	Tolerance mm		,4 -0,2
CONTROL LEVER, ID	LC 3101	<del>-</del>	Ι	MS1 dimension mm		
Rated speed rpm		350	Ι	Tolerance mm		,0 0,15/ <b>-0</b> ,1
varen sheen Lhiji		, JO	ľ	roterative iiiii		27127 071

CONTROL LEVER POSITION SET

Control lever position YA mm : 37,9..39,9

Control lever

: 43,1..48,3 position YB mm

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.96 Test oil : ISO 4113

Part no. : 0 460 424 117 Pump designation : VE4/12F1200R636

Customer-spec. information Customer : MAN

Motor : D 0824 LFL 01

Power KW : 114.0

## TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm : 840

REMARKS

INJECTION PUMP SETTING VALUES

## TIMING DEVICE TRAVEL

Rated speed rpm : 850 Aneroid pressure hPa : 1500

Setting mm : 2.2 Tolerance mm : 0.2

KSB/AFB Vo' : 12

## SUPPLY PUMP PRESSURE

Rated speed rpm : 850
Aneroid pressure
hPa : 1500

Setting hPa : 6.7 Tolerance hPa : 0.3

KSB/AFB Volt : 12

## FULL-LOAD DELIVERY WITH BOOST PRESSURE

1000 Rated speed rpm : Aneroid pressure 1500 hPa Del. quantity cm3/1000 strokes : 108.0 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 4.0 Check tolerance

KSB/AFB Volt : 12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

4.5

Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 61.0
Tolerance
cm3/1000 strokes : 0.5

Check tolerance cm3/1000s. : 4.5

KSB/AFB Volt : 12

## IDLE SETTING

cm3/1000s.

Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 14.5
Tolerance
cm3/1000 strokes : 2.0

Spread

cm3/1000 strokes : 6.0

Check tolerance cm3/1000s.	: 6.5	+ Aneroid pressure + hPa : 1500
KSB/AFB Volt	: 12	SV travel mm : 4.9 Tolerance mm : 0.4
FULL-LOAD SPEED F	REGULATION	tolerance mm : 0.4
Rated speed rpm Pressure hPa	: 1300 : 1500	KSB/AFB Volt : 12
Del. quantity cm3/1000 strokes		SUPPLY PUMP PRESSURE CHARACTERISTIC
Tolerance cm3/1000 strokes		Rated speed rpm : 1200 Aneroid pressure
KSB/AFB Volt	: 12	hPa : 1500 + Supply pomp
	, , , ,	pressure bar : 8.6 Tolerance hPa : 0.3
SET GRADUATED STA		KSB/AFB Volt : 12
Rated speed rpm Del. quantity	: 100	Rated speed rpm : 550 Aneroid pressure
cm3/1000 strokes Tolerance	: 135.0	hPa : 1500 Supply pomp
cm3/1000 strokes	: 1.0	pressure bar : 5.2 Tolerance hPa : 0.3
KSB/AFB Volt	: 12	+ KSB/AFB Volt : 12
		OVERFLOW QUANTITY
INJECTION-PUMP TE	ST SPECIFICATIONS	Rated speed rpm : 550
TIMING DEVICE CHA	RACTERISTIC	+ Overflow quantity + ccm/10s : 63.8 + Tolerance
Rated speed rpm Aneroid pressure	: 1000	ccm/10s : 22.2
hPa	: 1500	Check tolerance ccm/10s : 22.2
SV travel mm Tolerance mm	: 4.0 : 0.4	+ KSB/AFB Volt : 12
Check tolerance mm	: 0.7	Rated speed rpm : 1200
KSB/AFB Volt	: 12	+ Aneroid pressure + hPa : 1500
Rated speed rpm	: 750	+ Overflow quantity + ccm/10s : 97.2
Aneroid pressure hPa	: 1500	Tolerance ccm/10s : 41.6
SV travel mm Tolerance mm	: 1.0 : 0.4	Check tolerance : 41.6
Check tolerance mm	: 0.7	KSB/AFB Volt : 12
KSB/AFB Volt	: 12	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm	: 1200	Rated speed rpm : 1300

Aneroid pressure hPa	:	1500	‡	KSB/AFB Volt	:	12	
Del. quantity cm3/1000 strokes	:	75.0	‡	Rated speed rpm		700	
Tolerance cm3/1000 strokes	:	3.0	‡	Aneroid pressure	:	1500	
KSB/AFB Volt	:	12	Ī	Del. quantity cm3/1000 strokes Tolerance	:	114.0	
Rated speed rpm Aneroid pressure	:	1340		cm3/1000 strokes Check tolerance	:	2.5	
hPa Del. quantity	:	1500	‡	cm3/1000s.	:	4.0	
cm3/1000 strokes	:	12.0	+	KSB/AFB Volt	:	12	
KSB/AFB Volt	:	12	‡	Rated speed rpm Aneroid pressure			
Rated speed rpm Aneroid pressure	:	1260	†	hPa Del. quantity	:	1500	
hPa Del. quantity cm3/1000 strokes	:	1500 100.0	Ī	cm3/1000 strokes Tolerance cm3/1000 strokes		115.0 2.5	
Check tolerance cm3/1000s.	:	5.0		Check tolerance cm3/1000s.	:	4.0	
KSB/AFB Volt	:	12	‡	KSB/AFB Volt	:	12	
Rated speed rpm	:	1370	‡	Rated speed rpm	:	550	
Aneroid pressure hPa	:	1500	‡	Aneroid pressure hPa	:	1500	
Del. quantity cm3/1000 strokes Tolerance	:	1.5	<u> </u>	Del. quantity cm3/1000 strokes Tolerance	:	115.0	
cm3/1000 strokes Check tolerance	:	1.5	<u> </u>	cm3/1000 strokes Check tolerance	:	4.5	
cm3/1000s.	:	1.5	+	cm3/1000s.	:	6.0	
KSB/AFB Volt	:	12	<del>}</del>	KSB/AFB Volt	:	12	
Rated speed rpm Aneroid pressure	:	550	‡	Rated speed rpm Aneroid pressure	:	1000	
hPa Del. quantity	:	400	+	hPa Del. quantity	:	1500	
cm3/1000 strokes Tolerance cm3/1000 strokes		81.0 0.5	<u>†</u>	cm3/1000 strokes Tolerance cm3/1000 strokes		108.0	
Check tolerance cm3/1000s.	•	3.0	<u> </u>	Check tolerance cm3/1000s.	:	2.5	
KSB/AFB Volt	:	12	+				
Rated speed rpm	:	1200	+	MECHANICAL SHUTOF			
Aneroid pressure	:	1500	+	Rated speed rpm Aneroid pressure		1200	
	:	103.0	†	hPa Del. quantity	:	1500 1.5	
Tolerance cm3/1000 strokes Check tolerance	:	2.5	<u> </u>	cm3/1000 strokes Tolerance cm3/1000 strokes		1.5	
cm3/1000s.	:	4.0	Ţ	CHO/ TOOU SCHOKES	•	1.0	

Spread

5.0 cm3/1000 strokes :

Check tolerance

cm3/1000s.1.5

Spread

cm3/1000 strokes : 5.0

KSB/AFB Volt 12

IDLE DELIVERY

Rated speed rpm 500

Del. quantity cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. 1.5

KSB/AFB Volt 12 :

START TRANSITION

Rated speed rpm 430

Del. quantity

cm3/1000 strokes : 68.0

Tolerance

cm3/1000 strokes : 20.0

KSB/AFB Volt : 12

330 Rated speed rpm

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strckes : 15.0

12 KSB/AFB Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 3,7 Dimension K mm

: +-0,1 Tolerance mm

Dimension KF mm : 6,4

Tolerance mm : +-0,2

MS1 dimension mm : 1,5

: +0,15/-0,1 Tolerance mm

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 37,4..40,4

Control lever

position YB mm : 35,4..40,6

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.03.96 Test oil : ISO 4113

Part no. : 0 460 424 123 Pump designation : VE4/12F1200R636-1

Customer-spec. information Customer : MAN

Motor : D 0824 LFL 05 Power KW : 114.0

### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 250 Tolerance bar : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

# REMARKS

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure	:	900
hPa	:	1500
Setting mm Tolerance mm	:	2.1 0.2
Shutoff solenoid		

### SUPPLY PUMP PRESSURE

Volt

Rated speed rpm Aneroid pressure	:	900		
hPa	:	1500		
Setting hPa Tolerance hPa	:	7.3 0.3		
Shutoff solenoid Volt	;	24		

### FULL-LOAD DELIVERY WITH BOOST PRESSURE

24

Rated speed rpm	:	1000
Aneroid pressure		
hPa	:	1500
Del. quantity		
cm3/1000 strokes	:	110.0
Tolerance		
cm3/1000 strokes	:	0.5
Spread		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000S.	:	4.5
Shutoff solenoid		
Volt	:	24

### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm	:	550
Del. quantity cm3/1000 strokes	:	62.5
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid Volt	:	24
Check tolerance cm3/1000S.	:	4.5

# IDLE SETTING

Rated speed rpm	:	400
Del. quantity cm3/1000 strokes	:	14.5
Tolerance cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	24

Spread			†	
cm3/1000 strokes Check tolerance	:	6.0	+ SV travel mm :	4.9
cm3/1000s.		6.5	+ Tolerance mm : + Check	0.4
GH37 10003.	•	0.5	tolerance mm :	0.4
			+ Shutoff solenoid	0
FULL-LOAD SPEED F	REGU	LATION	+ Volt :	24
			+	
Rated speed rpm	:	1340 1500	+ SUPPLY PUMP PRESSURE	CHARACTERISTIC
Pressure hPa Del. quantity	•	1500	+ Rated speed rpm :	1200
cm3/1000 strokes	:	75.0	Aneroid pressure	1200
Tolerance	•	, , , ,	+ hPa :	1500
cm3/1000 strokes	:	2.0	→ Supply pomp	
Shutoff solenoid			+ pressure bar :	8.8
Volt	:	24	+ Tolerance hPa :	0.3
OTADTING FUEL NEI	T. (C)	<b>DV</b>	+ Shutoff solenoid	24
STARTING FUEL DEL	TVE	RY	† Volt :	24
Rated speed rpm	:	100	Rated speed rpm :	550
Del. quantity	-		+ Aneroid pressure	
cm3/1000 strokes	:	115.0	+ hPa :	1500
Tolerance			+ Supply pomp	
cm3/1000 strokes	:	25.0	+ pressure bar :	5.5
Shutoff solenoid Volt		24	+ Tolerance hPa : + Shutoff solenoid	0.3
VOCE	•	5.1	Volt :	24
			1	24
			OVERFLOW QUANTITY	
			+	
			1	
TALLECTION DUMP TO	CT (		Rated speed rpm :	550
INJECTION-PUMP TE	ST S	SPECIFICAT	IONS + Overflow quantity	
			IONS   Overflow quantity   ccm/10s :	550 63.8
INJECTION-PUMP TE			IONS + Overflow quantity	
TIMING DEVICE CHA	RACT		IONS	63.8
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RACT	TERISTIC 1050	IONS	63.8 22.2
TIMING DEVICE CHA	RACT	TERISTIC	IONS	63.8
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RACT	TERISTIC 1050 1500	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s  Shutoff solenoid	63.8 22.2 22.2
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm	RAC1 : :	TERISTIC 1050 1500 3.7	IONS	63.8 22.2
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RACT	TERISTIC 1050 1500	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s  Shutoff solenoid	63.8 22.2 22.2
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm	RAC1 : :	TERISTIC 1050 1500 3.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure	63.8 22.2 22.2 24 1200
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid	RAC1 : :	1050 1500 3.7 0.4 0.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  Overflow quantity ccm/10s Shutoffsolenoid com/10s Aneroid pressure hPa  Shutoffsolenoid com/10s Shutoff solenoid com/10s Shutoff solenoid com/10s Shutoff solenoid com/10s Shutoff solenoid com/10s Shutoff solenoid	63.8 22.2 22.2 24
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm	RAC1 : :	1050 1500 3.7 0.4	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity	63.8 22.2 22.2 24 1200 1500
TIMING DEVICE CHARATED SPECIAL TOLERANCE MATERIAL T	RAC	1050 1500 3.7 0.4 0.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s  :	63.8 22.2 22.2 24 1200
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm	RAC1 : :	1050 1500 3.7 0.4 0.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity	63.8 22.2 22.2 24 1200 1500
TIMING DEVICE CHARATED SPECIAL TOLERANCE MATERIAL T	RAC	1050 1500 3.7 0.4 0.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s  Tolerance ccm/10s :	63.8 22.2 22.2 24 1200 1500 97.2
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa	RAC	1050 1500 3.7 0.4 0.7 24 800 1500	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2 41.6
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm	RAC	1050 1500 3.7 0.4 0.7 24 800 1500 0.9	Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Check tolerance ccm/10s Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm	RAC	1050 1500 3.7 0.4 0.7 24 800 1500	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check	RAC	1050 1500 3.7 0.4 0.7 24 800 1500 0.9 0.4	Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Check tolerance ccm/10s Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2 41.6
TIMING DEVICE CHAR Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm	RAC	1050 1500 3.7 0.4 0.7 24 800 1500 0.9	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s Shutoff solenoid	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6 24
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm	RAC	1050 1500 3.7 0.4 0.7 24 800 1500 0.9 0.4	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s  Check tolerance ccm/10s  DELIVERY AND BREAKAWAY	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6 24 Y CHARACTERISTIC
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt	RACT : : : : : : : : : : : : : : : : : : :	1050 1500 3.7 0.4 0.7 24 800 1500 0.9 0.4 0.7 24	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s  Tolerance ccm/10s  Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6 24
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm	RAC	1050 1500 3.7 0.4 0.7 24 800 1500 0.9 0.4 0.7	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/10s  Tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance ccm/10s  Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6 24 Y CHARACTERISTIC
Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt	RACT : : : : : : : : : : : : : : : : : : :	1050 1500 3.7 0.4 0.7 24 800 1500 0.9 0.4 0.7 24	Overflow quantity ccm/10s Tolerance ccm/10s  Check tolerance ccm/î0s Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s  Tolerance ccm/10s  Check tolerance	63.8 22.2 22.2 24 1200 1500 97.2 41.6 41.6 24 Y CHARACTERISTIC

Del. quantity cm3/1000 strokes	:	75.0	‡	Shutoff solenoid Volt : 24
Tolerance cm3/1000 strokes	:	2.0	†	Rated speed rpm : 1200
Shutoff solenoid Volt	:	24	†	Aneroid pressure hPa: 1500 Del. quantity
Rated speed rpm Aneroid pressure	:	1410	I	cm3/1000 strokes : 106.0  Tolerance
hPa Del. quantity	:	1500	‡	cm3/1000 strokes : 2.5 Check tolerance
cm3/1000 strokes Shutoff solenoid	:	7.5	‡	cm3/1000s. : 4.0 Shutoff solenoid
Volt	:	24	‡	Volt : 24
Rated speed rpm Aneroid pressure hPa	:	1220 1500	1	Rated speed rpm : 700 Aneroid pressure hPa : 1500
Del. quantity cm3/1000 strokes	•	106.0	Ī	Del. quantity cm3/1000 strokes : 116.0
Check tolerance cm3/1000s.	:	5.0	1	Tolerance cm3/1000 strokes : 2.5
Shutoff solenoid Volt	:	24	+	Check tolerance cm3/1000s. : 4.0
Rated speed rpm	:	1420	†	Shutoff solenoid Volt : 24
Aneroid pressure hPa Del. quantity	:	1500	Ī	Rated speed rpm : 550 Aneroid pressure
cm3/1000 strokes Tolerance	:	1.5	1	hPa : 1500 Del. quantity
cm3/1000 strokes Check tolerance	:	1.5	+	cm3/1000 strokes : 121.0 Tolerance
cm3/1000s. Shutoff solenoid	:	1.5	+	cm3/1000 strokes : 4.5 Check tolerance
Volt	:	24 1380	‡	cm3/1000S. : 6.0 Shutoff solenoid Volt : 24
Rated speed rpm Aneroid pressure hPa	:	1500	Ī	Rated speed rpm : 1000
Del. quantity cm3/1000 strokes	:	30.0	+	Aneroid pressure hPa : 1500
Tolerance cm3/1000 strokes	:	15.0	+	Del. quantity cm3/1000 strokes : 110.0
Shutoff solenoid Volt	:	24	+	Tolerance cm3/1000 strokes : 0.5
Rated speed rpm Aneroid pressure	:	550	-	Check tolerance cm3/1000s. : 2.5 Shutoff solenoid
hPa	:	500	+	Volt : 24
LDA/ HBA stroke mm	:	7.8	+	
	:	99.0	+	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Tolerance cm3/1000 strokes	:	0.5	‡	Rated speed rpm : 400 Del. quantity
Check tolerance cm3/1000s.	:	3.5	Ī	cm3/1000 strokes : 1.5
			•	

Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CO Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance	NTROL LI : 44 : :	00 1.5 1.5 5.0
cm3/1000S. Spread	:	1.5
cm3/1000 strokes	:	5.0
IDLE DELIVERY		
Rated speed rpm Del. quantity	: 50	00
cm3/1000 strokes	:	1.5
Tolerance cm3/1000 strokes	:	1.5
Check tolerance cm3/1000s.	:	1.5
Shutoff solenoid Volt	:	24
START TRANSITION		
Rated speed rpm Del. quantity	: 25	50
cm3/1000 strokes Tolerance	: 3	30.0
cm3/1000 strokes	: 2	20.0
Shutoff solenoid Volt	:	24
Rated speed rpm	: 15	50
Del. quantity cm3/1000 strokes	: 11	0.0
Tolerance cm3/1000 strokes	: 3	80.0
Shutoff solenoid Volt	:	24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm	: +-0,2
CONTROL LEVER POS SET	ITION
Control lever spacing Xl mm Control lever spacing Xk mm	: 12.60 : 21.00
Control lever position YA mm	: 37,440,4
Control lever position YB mm	: 41,947,1

BOSCH INJ. PUMP 1	EST SPECIFICAT:	SMOI
Note remarks		
Refer to Service adjustment instru See microcard(s)	ctions.	and
Edition Test oil	: 31.08.95 : ISO 4113	
Part no. Pump designation	: 0 460 424 1° : VE4/12F1109F	19 R644
Customer-spec. ir	formation : CASE	
Customer Motor	: 4 T-390/788	
Power KW	: 70.0	
TEST BENCH REQUIR	EMENTS	
Calibrating-oil return		
temperature °C	: 45 : 1	
Tolerance °C	: 1	
Overflow restriction mm	: 0.55	
Inlet press. bar Tolerance bar	: 0.35 : 0.05	
Test nozzle holde assembly	: 1 688 901 02	27
Opening pressure		
bar Tolerance bar	: 250 : 3	
Test lines	: 1 680 750 00	10
Outside diameter	: 6.00	
x inside diameter x length mm	: 2.00 : 840	

Plunger stroke mm : 1,8 Outlet : A Prestroke (as of UT) mm : 0,3 Tolerance mm : +-0,02 Check tolerance mm : +-0,04 INJECTION PUMP SETTING VALUES TIMING DEVICE TRAVEL 800 Rated speed rpm : Setting mm 2.1 Tolerance mm 0.2 Shutoff solenoid 24 Volt SUPPLY PUMP PRESSURE 800 Rated speed rpm 6.9 Setting hPa Tolerance hPa 0.3 Shutoff solenoid 24 Volt FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Rated speed rpm 900 Del. quantity cm3/1000 strokes : 68.0 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 4.0 Shutoff solenoid Volt 24 IDLE SETTING 425 Rated speed rpm Del. quantity cm3/1000 strokes : 9.0 Tolerance cm3/1000 strokes : 3.0 Shutoff solenoid 24 Volt Spread

FULL-LOAD SPEED REGULATION

5.5

7.0

cm3/1000 strokes :

Check tolerance

cm3/1000s.

Start of delivery blocking

			+				
Rated speed rpm Del. quantity	:	1160	1	OVERFLOW QUANTITY	1		
cm3/1000 strokes Tolerance	:	42.0	1	Rated speed rpm Overflow quantity		1100	
cm3/1000 strokes Shutoff solenoid	:	3.0	1	ccm/10s Tolerance	:	83.3	
Volt	:	24	<u> </u>	ccm/10s	:	27.7	
STARTING FUEL DEL	.IVER	Y	1	Check tolerance ccm/10s		27.7	
Rated speed rpm Del. quantity	:	100	+	Shutoff solenoid Volt	•	24	
cm3/1000 strokes	:	90.0	Ŧ		•	500	
Tolerance cm3/1000 strokes	:	20.0	<b>†</b>	Rated speed rpm Overflow quantity		_	
Shutoff solenoid Volt	:	24	Ŧ	ccm/10s Tolerance	•	63.8	
			‡	ccm/10s	:	22.2	
			+	Check tolerance ccm/10s	:	22.2	
INJECTION-PUMP TE	ST S	PECIFICATIONS	<del></del>	Shutoff solenoid Volt	:	24	
TIMING DEVICE CHA	RACT	ERISTIC	‡	DELIVERY AND BREA	KAWA	AY CHARACT	ERISTIC
Rated speed rpm	:	1100	‡	Rated speed rpm	:	1160	
SV travel mm	:	3.8	+	Del. quantity cm3/1000 strokes	:	42.0	
Tolerance mm Check	:	0.4	† †	Tolerance cm3/1000 strokes	:	3.0	
tolerance mm Shutoff solenoid	:	0.7	<u>+</u>	Check tolerance cm3/1000s.	:	6.0	
Volt	:	24	1	Shutoff solenoid Volt	•	24	
Rated speed rpm	•	500	<u> </u>	Rated speed rpm	:		
SV travel mm Tolerance mm	:	0.5 0.4	1	Del. quantity cm3/1000 strokes	•	32.5	
Check tolerance mm	•	0.7	1	Check tolerance cm3/1000s.	•	8.0	
Shutoff solenoid	•		Ŧ	Shutoff solenoid	•		
Volt	:	24	Ŧ	Volt	•	24	
SUPPLY PUMP PRESS	URE (		‡	Rated speed rpm Del. quantity	:	1240	
Rated speed rpm Supply pomp	:	1100	‡	cm3/1000 strokes Tolerance		1.5	
pressure bar Tolerance hPa	:	8.2 0.3	‡	cm3/1000 strokes Check tolerance	:	1.5	
Shutoff solenoid Volt	:	24	‡	cm3/1000s. Shutoff solenoid	:	1.5	
Rated speed rpm	:	500	<u> </u>	Volt	:	24	
Supply pomp pressure bar	•	5.6	$\frac{1}{1}$	Rated speed rpm Del. quantity	:	1100	
Tolerance hPa Shutoff solenoid	:	0.3	$\frac{1}{1}$	cm3/1000 strokes Tolerance	:	67.0	
Volt	:	24	Ţ	cm3/1000 strokes	:	1.5	

G20

Check tolerance cm3/1000s.	:	3.0	+	Check tolerance cm3/1000s.	:	1.5
Shutoff solenoid Volt	:	24	‡	Spread cm3/1000 strokes	:	5.0
Rated speed rpm	:	750	Ŧ	IDLE DELIVERY		
Del. quantity cm3/1000 strokes Tolerance	:	70.0	Ŧ	Rated speed rpm Del. quantity	:	500
cm3/1000 strokes Check tolerance	:	2.0	$\pm$	cm3/1000 strokes Tolerance	:	2.0
cm3/1000s. Shutoff solenoid	:	4.0	1	cm3/1000 strokes Check tolerance	:	2.0
Volt	:	24	1	cm3/1000s. Shutoff solenoid	:	2.0
Rated speed rpm Del. quantity	:	500	$\pm$	Volt	:	24
cm3/1000 strokes Tolerance	:	32.0	+	Rated speed rpm Del. quantity	:	350
cm3/1000 strokes Check tolerance	:	4.0	+	cm3/1000 strokes Tolerance	:	18.0
cm3/1000s. Shutoff solenoid	:	6.0	+	cm3/1000 strokes Shutoff solenoid	:	8.0
Volt	:	24	+	Volt	:	24
Rated speed rpm Del. quantity	:	900	1	Rated speed rpm Del. quantity	:	375
cm3/1000 strokes Tolerance	:	68.0	<u> </u>	cm3/1000 strokes Tolerance	:	15.0
cm3/1000 strokes Check tolerance	:	0.5	<u> </u>	cm3/1000 strokes Shutoff solenoid	:	8.0
cm3/1000s. Shutoff solenoid	:	3.0	<u> </u>	Volt	:	24
Volt	:	24	+	Rated speed rpm Del. quantity	:	400
		<del></del>		cm3/1000 strokes Tolerance	:	12.0
ELECTR. SHUTOFF CONTROL LEVER, ID	LE ST	OP	<u> </u>	cm3/1000 strokes Shutoff solenoid	:	6.0
Rated speed rpm	:	500	<u> </u>	Volt	:	24
Del. quantity cm3/1000 strokes	:	1.5	+			
Tolerance cm3/1000 strokes	:	1.5	‡			
Check tolerance cm3/1000s.	:	1.5	‡	START TRANSITION		
Spread cm3/1000 strokes	:	5.0	‡	Rated speed rpm	:	300
FULL-LOAD STOP CO	NTROL	LEVER	‡	Del. quantity cm3/1000 strokes	:	72.0
Rated speed rpm	:	500	‡	Tolerance cm3/1000 strokes	:	8.0
Del. quantity cm3/1000 strokes	:	1.5	‡	Shutoff solenoid Volt	:	24
Tolerance cm3/1000 strokes	:	1.5	‡			
Spread cm3/1000 strokes	:	5.0	‡	Rated speed rpm Del. quantity	:	130
			+	cm3/1000 strokes	:	98.0

Tolerance

cm3/1000 strokes : 25.0

Shutoff solenoid

Volt 24

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 5,2
Tolerance mm : +-0,2
MS1 dimension mm : 1,5
Tolerance mm : +0,15/-0,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.95 Test oil : ISO 4113

: 0 460 484 103 Part no. Pump designation : VE4/8F2300R652

Customer-spec. information : RENAULT Customer : F8Q - 646 Motor 45.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

2 00 x inside diameter : x length mm **+50** 

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.7 Setting mm Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 5.4 Tolerance hPa 0.3 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 31.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5 Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes 2.0

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

2450 Rated speed rpm

Del. quantity

cm3/1000 strokes : 24.5

Tolerance

cm3/1030 strokes 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid Volt	:	12	†	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
			Ī	Rated speed rpm Supply pomp	:	2000
LOAD-DEPENDENT ST SETTING	ART	OF DELIVERY	+	pressure bar Tolerance hPa	:	7.5 0.3
DELIVERY DIFFEREN	CE		‡	Shutoff solenoid Volt	:	12
Rated speed rpm Del. quantity	:	1250	1	Rated speed rpm Supply pomp	:	600
cm3/1000 strokes Tolerance			+	pressure bar Tolerance hPa	:	3.6 0.3
cm3/1000 strokes Shutoff solenoid	:	1.0 12	‡	Shutoff solenoid Volt	:	12
Volt PRESSURE DIFFEREN	· ICE	12	Ī	OVERFLOW QUANTITY		
Rated speed rpm		1250	+	Rated speed rpm Overflow quantity		
Del. quantity cm3/1000 strokes	:	-0.2	‡	ccm/10s Tolerance	:	97.2
Tolerance cm3/1000 strokes Shutoff solenoid	:	0.1	Ī	ccm/10s Check tolerance	:	41.6
Volt	:	12	+	ccm/10s Shutoff solenoid	:	41.6
TIMING-DEVICE TRA			+	Volt	:	12
Rated speed rpm Del. quantity cm3/1000 strokes		1250 -0.7	†	Rated speed rpm Overflow quantity ccm/10s		600 63.8
Tolerance cm3/1000 strokes		0.1	Ī	Tolerance	:	22.2
Shutoff solenoid Volt	:	12	+	Check tolerance		
THEOTICAL DIME TO		DECYFICATIONS	+	ccm/10s Shutoff solenoid	:	22.2
INJECTION—PUMP TE			Ŧ	Volt	:	12
TIMING DEVICE CHA			‡	DELIVERY AND BREAK		
Rated speed rpm			‡	Rated speed rpm Del. quantity		
SV travel mm Tolerance mm Check		6.1 0.4	Ī	cm3/1000 strokes Tolerance cm3/1000 strokes		24.5 3.0
tolerance mm Shutoff solenoid		0.6	Ī	Check tolerance cm3/1000s.	:	4.0
Volt	:	12	+	Shutoff solenoid Volt	:	12
Rated speed rpm	:	500	+	Rated speed rpm	:	2650
SV travel mm Tolerance mm Check	:	1.2 0.4	Ī	Del. quantity cm3/1000 strokes Check tolerance	:	9.5
tolerance mm Shutoff solenoid	:	0.6	‡	cm3/1000s. Shutoff solenoid	:	5.0
Volt	:	12	+	Volt	:	12

G24

			1
Rated speed rpm	•	2950	<u> </u>
Del. quantity	•	2750	
cm3/1000 strokes	:	2.5	→ ELECTR. SHUTOFF
Tolerance			+ CONTROL LEVER, IDLE STOP
cm3/1000 strokes	:	2.5	†
Check tolerance		2 5	+ Rated speed rpm : 410
cm3/1000S. Shutoff solenoid	•	2.5	the Del. quantity the cm3/1000 strokes : 1.5
Volt	•	12	Tolerance
7011	•	,,_	+ cm3/1000 strokes : 1.5
Rated speed rpm	:	2250	+ Check tolerance
Del. quantity			+ cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+ Spread
Tolerance		1.0	+ cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	:	1.0	FULL-LOAD STOP CONTROL LEVER
cm3/1000s.	•	2.3	T TOLL-LOAD STOP CONTROL LEVER
Shutoff solenoid	•	<b>C.</b> 3	Rated speed rpm : 410
Volt	:	12	+ Del. quantity
			+ cm3/1000 strokes : 1.5
Rated speed rpm	:	1625	+ Tolerance
Del. quantity			+ cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+ Spread
Tolerance		4 5	+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.5	+ Check tolerance + cm3/1000s. : 1.5
Check tolerance cm3/1000s.		2.3	+ cm3/1000s. : 1.5 + Spread
Shutoff solenoid	•	2.3	- cm3/1000 strokes : 5.0
Volt	:	12	The compositiones in the second secon
1011	•	, _	1
Rated speed rpm	:	2000	+
Rated speed rpm Del. quantity	-		‡
Del. quantity cm3/1000 strokes	-	2000 32.5	<del></del>
Del. quantity cm3/1000 strokes Tolerance	:	32.5	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	-		CHECKING LOAD-DEPENDENT
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	32.5 1.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5	START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	32.5 1.0 2.3	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5 1.0	START OF DELIVERY  DELIVERY DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	32.5 1.0 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity		32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes		32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance		32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid  Volt : 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes		32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1

Shutoff solenoid

12 Volt

DELIVERY DIFFERENCE

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

0.2 Tolerance mm

Check

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

310 Rated speed rpm

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes 10.0

Shutoff solenoid

12 Volt

Rated speed rpm 210

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

Tolerance mm : +-0,1

: 5,4 Dimension KF mm

: +-0,2 Tolerance mm

: 1,3 Dimension MS mm

: +-0,2 Tolerance mm

MICROSWITCH

SET

: 0,8..3,0 mm

: 16,2..17,0

G26

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 30,3..34,3

Control lever

position YB mm : 64,1..76,4

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 23.06.95 Test oil : ISO 4113

: 0 460 484 104 Part no. Pump designation: VE4/8F2300R652-1

Customer-spec. information

Customer Motor

: RENAULT : F8Q - 646

Power KW

45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35

Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.7 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

5.4 Setting hPa : Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 31.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2450

Del. quantity

cm3/1000 strokes : 24.5

Tolerance

3.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

			1			
Rated speed rpm		100	I	SV travel mm	:	1.2
Del. quantity	•	100	1	Tolerance mm	:	0.4
cm3/1000 strokes	:	55.0	+	Check		
Tolerance			+	tolerance mm	:	0.6
cm3/1000 strokes	:	15.0	+	Shutoff solenoid		40
Shutoff solenoid		12	†	Volt	:	12
Volt	•	12	I	SUPPLY PUMP PRESS	HDE	CHADACTEDISTIC
			1	DOTTET TOTAL TIMEDO	ONE	CHARACTERISTIC
			+	Rated speed rpm	:	2000
LOAD-DEPENDENT ST	ART	OF DELIVERY	+	Supply pomp		
SETCENG			†	pressure bar	:	7.5
DELIVERY DIFFEREN	ICE		†	Tolerance hPa Shutoff solenoid	:	0.3
DELINER! DIFFEREN	CE		Ī	Volt		12
Rated speed rpm	:	1250	1	VOCC	•	, _
Del. quantity	•		1	Rated speed rpm	:	600
cm3/1000 strokes	:	-7.0	+	Supply pomp		
iolerance		4.6	†	pressure bar	:	3.6
cm3/1000 strokes Shutoff solenoid	:	1.0	†	Tolerance hPa Shutoff solenoid	•	0.3
Volt	•	12	1	Volt		12
VOCE	•	: =	1	VOCC	•	1 6
PRESSURE DIFFEREN	CE		+	OVERFLOW QUANTITY		
			+			
Rated speed rpm	:	1250	+	Rated speed rpm		2250
Del. quantity cm3/1000 strokes		-0.2	†	Overflow quantity ccm/10s		97.2
Tolerance	•	-0.2	I	Tolerance	•	71,2
cm3/1000 strokes	:	0.1	1	ccm/10s	:	41.6
Shutoff solenoid			+			
Volt	:	12	+	Check tolerance		
TINING NEUTOE TOA		DIFFEDENCE	†	ccm/10s	:	41.6
TIMING-DEVICE TRA	VEL	DIFFERENCE	Ī	Shutoff solenoid Volt		12
Rated speed rpm	:	1250	1	1000	•	, <u> </u>
Del. quantity			+	Rated speed rpm	•	600
cm3/1000 strokes	:	-0.7	+	Overflow quantity		477
Tolerance		0.4	†	ccm/10s	:	<b>63.8</b>
cm3/1000 strokes Shutoff solenoid	:	0.1	1	Tolerance ccm/10s		22.2
Volt	•	12	I	CCIII/ TOS	•	<i></i>
	•	, <del>_</del>	+	Check tolerance		
			+	ccm/10s	:	22.2
INJECTION-PUMP TE	ST S	SPECIFICATIONS	†	Shutoff solenoid	_	43
TIMING DEVICE CHA	D ለ ሶ.	TEDISTIC	Ī	Volt	:	12
ITHING DEVICE CHA	NAC.	IENISTIC	I	DELIVERY AND BREAK	KAW!	Y CHARACTERISTIC
Rated speed rpm	:	2000	+			
			+	Rated speed rpm	:	2450
SV travel mm	:	6.1	+	Del. quantity		2/ 5
Tolerance mm	:	0.4	†	cm3/1000 strokes Tolerance	:	24.5
Check tolerance mm	:	0.6	I	cm3/1000 strokes	•	3.0
Shutoff solenoid	•	J. J	1	Check tolerance	•	
Volt	:	12	+	cm3/1000S.	:	4.0
			+	Shutoff solenoid		40
Rated speed rpm	:	60G	†	Volt	:	12
			+			

Rated speed rpm		2650	+ Del. quantity
Del. quantity	•	2000	cm3/1000 strokes : 31.5
cm3/1000 strokes	:	9.5	Tolerance
Check tolerance			+ cm3/1000 strokes : 0.5
cm3/1000s.	:	5 <b>.0</b>	+ Check tolerance
Shutoff solenoid		•-	- cm3/1000s. : 2.3
Volt	:	12	+ Shutoff solenoid
D. 4		2000	+ Volt : 12
Rated speed rpm	:	2950	†
Del. quantity cm3/1000 strokes	•	2.5	<u> </u>
Tolerance	•	2.7	ELECTR. SHUTOFF
cm3/1000 strokes	:	2.5	CONTROL LEVER, IDLE STOP
Check tolerance			+
cm3/1000s.	:	2.5	+ Rated speed rpm : 410
Shutoff solenoid			+ Del. quantity
Volt	:	12	+ cm3/1000 strokes : 1.5
<b>5</b> 1 1 1		2250	+ Tolerance
Rated speed rpm	:	2250	- cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes		32.1	+ Check tolerance + cm3/1000s. : 1.5
Tolerance	•	22.1	Spread
cm3/1000 strokes	•	1.0	cm3/1000 strokes : 5.0
Check tolerance	•	1.0	1
cm3/1000s.	:	2.3	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid			+
Volt	:	12	+ Rated speed rpm : 410
			+ Del. quantity
Rated speed rpm	:	1625	+ cm3/1000 strokes : 1.5
Del. quantity		74.0	Tolerance
cm3/1000 strokes	:	31.0	- cm3/1000 strokes : 1.5
Tolerance cm3/1000 strokes		1.5	+ Spread + cm3/1000 strokes : 5.0
Check tolerance	•	1.5	Check tolerance
cm3/1000s.	:	2.3	- cm3/1000s. : 1.5
Shutoff solenoid			Spread
Volt	:	12	+ cm3/1000 strokes : 5.0
			†
Rated speed rpm	:	2000	†
Del. quantity		70 5	†
cm3/1000 strokes Tolerance	:	32.5	Ī
cm3/1000 strokes		1.0	
Check tolerance	•	1.0	CHECKING LOAD-DEPENDENT
cm3/1000s.	:	2.3	+ START OF DELIVERY
Shutoff solenoid			<del>)</del>
Volt	:	12	<pre>DELIVERY DIFFERENCE</pre>
		. = =	†
Rated speed rpm	:	600	+ Rated speed rpm : 1250
Del. quantity		74.0	+ Del. quantity
cm3/1000 strokes	:	31.9	+ cm3/1000 strokes : -9.5
Tolerance cm3/1000 strokes		1.5	+ Tolerance + cm3/1000 strokes : 3.0
Check tolerance	•	1.5	+ Check tolerance
cm3/1000s.	:	2.3	+ cm3/1000s. : 3.0
Shutoff solenoid	-		+ Shutoff solenoid
Volt	:	12	+ Volt : 12
		4050	†
Rated speed rpm	:	1250	+ TIMING-DEVICE TRAVEL DIFFERENCE
			†

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance cm3/1000s. 0.1 Shutoff solenoid Volt 12 DELIVERY DIFFERENCE Rated speed rpm 1250 Del. quantity cm3/1000 strokes : 5.0 Tolerance 3.0 cm3/1000 strokes : Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt

### TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250
Tolerance mm : 0.2
Check
tolerance mm : 0.3
Shutoff solenoid
Volt : 12

### START TRANSITION

Rated speed rpm : 310
Del. quantity
cm3/1000 strokes : 35.0
Tolerance
cm3/1000 strokes : 10.0
Shutoff solenoid
Volt : 12

Rated speed rpm : 210
Del. quantity
cm3/1000 strokes : 60.0
Tolerance
cm3/1000 strokes : 15.0
Shutoff solenoid
Volt : 12

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +0,1
Dimension KF mm : 5,4
Tolerance mm : +0,2
Dimension MS mm : 1,3
Tolerance mm : +0,2

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 30,3..34,2

Control lever

position YB mm : 64,1..76,9

End of test-specification sheet

H<sub>0</sub>2

### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.95 Test oil : ISO 4113

Part no. : 0 460 426 229 Pump designation : VE6/12F1350R674

Customer-spec. information Customer : IVECO-FIAT Motor : 8060.45.5000 Power KW : 105.0

### TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 55 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 027

Opening pressure

bar : 250 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

### TIMING DÉVICE TRAVEL

Rated speed rpm Aneroid pressure	:	1000
hPa	:	1000
Setting am	:	1.4
Tolerance mm	:	0.1
Shutoff solenoid		
Volt	:	24
KSB/AFB Volt	:	24

# SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1000
hPa	:	1000
Setting hPa Tolerance hPa	:	6.8 0.3
Shutoff solenoid Volt	:	24
KSB/AFB Volt	:	24

## FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm	:	650
Aneroid pressure	:	1000
Del. quantity cm3/1000 strokes	:	62.5
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	5.0
Shutoff solenoid Volt	:	24
KSB/AFB Volt	:	24

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance cm3/1000s. : 5.0

IDLE SETTING

Rated speed rpm	:	350
Del. quantity cm3/1000 strokes	:	16.5
Tolerance cm3/1000 strokes	:	2.0
Shutoff solenoid Volt	:	24
Spread	•	4.0

Check tolerance		† Setting point KSB
cm3/1000s.	: 5.0	Rated speed rpm : 340
KSB/AFB Volt	: 24	Aneroid pressure hPa : 1000
NODIALD ACT	. 64	T 1000
		SV travel mm : 2.0
FULL-LOAD SPEED R	EGULATION	† Tolerance mm : 0.2
Datad sanad ma	: 1550	+ Check + tolerance mm : 0.5
Rated speed rpm Pressure hPs		tolerance mm : 0.5 Shutoff solenoid
Del. quantity		+ Volt : 24
cm3/1000 strokes	: 14.0	<del> </del>
Tolerance	. 20	Rated speed rpm : 470
cm3/1000 strokes Shutoff solenoid	: 2.0	+ Aneroid pressure + hPa : 1000
Volt	: 24	Ţ '''a . ''OO
		SV travel mm : 3.2
KSB/AFB Volt	: 24	† Tolerance mm : 0.6 + Check
STARTING FUEL DEL	IVERY	tolerance mm : 0.7
	400	+ Shutoff solenoid
Rated speed rpm Del. quantity	: 100	+ Volt : 24
cm3/1000 strokes	: 58.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
Tolerance	. 30.0	+
cm3/1000 strokes	: 25.0	Rated speed rpm : 1100
Shutoff solenoid	. 24	Aneroid pressure
Volt	: 24	+ hPa : 1000 + Supply pomp
KSB/AFB Volt	: 24	pressure bar : 7.3
		Tolerance hPa : 0.3
		+ Shutoff solenoid
		† Volt : 24
		- KSB/AFB Volt : 24
INJECTION-PUMP TE	ST SPECIFICATIONS	+
		+ Rated speed rpm : 500
TIMING DEVICE CHA	RACTERISTIC	+ Aneroid pressure + hPa : 1000
Rated speed rpm	: 1100	+ Supply pomp
Aneroid pressure	. 1765	pressure bar : 3.7
hPa	: 1000	Tolerance hPa : 0.3
Tolerance mm	: 0.3	+ Shutoff solenoid
Check tolerance mm	: 0.7	† Volt : 24
Shutoff solenoid	. 0.7	KSB/AFB Volt : 24
Volt	: 24	+
	24	+ OVERFLOW QUANTITY
KSB/AFB Volt	: 24	Rated speed rpm : 1350
Rated speed rpm	: 1200	Aneroid pressure
Aneroid pressure		hPa : 1000
hPa	: 1000	+ Overflow quantity
Cu tanial	: 3.3	ccm/10s : 97.2 Tolerance
SV travel mm Tolerance mm	: 0.3	+ ccm/10s : 41.6
Shutoff solenoid		+
Volt	: 24	Check tolerance
KOD IASO III AA	. 2/	+ ccm/10s : 41.6
KSB/AFB Volt	: 24	<b>†</b>

Shutoff solenoid Volt	: 24	+ Shutoff solenoid + Volt	:	24
KSB/AFB Volt	: 24	KSB/AFB Volt	:	24
Rated speed rpm	: 500	Rated speed rpm	:	1350
Aneroid pressure	: 1000	Aneroid pressure		1000
Overflow quantity	•	+ Del. quantity	•	
ccm/10s Tolerance	: 63.8	+ cm3/1000 strokes + Tolerance	:	55.0
ccm/10s	: 22.2	+ cm3/1000 strokes	:	1.5
Check tolerance		+ Check tolerance + cm3/1000s.	:	3.5
ccm/10s	: 41.6	+ Shutoff solenoid		24
Shutoff solenoid Volt	: 24	† Volt	•	24
VCD/AFD Vola	: 24	+ KSB/AFB Volt	:	24
KSB/AFB Volt	; 24	Rated speed rpm	:	500
DELIVERY AND BREA	KAWAY CHARACTERISTIC	+ Aneroid pressure + hPa		1000
Rated speed rpm	: 1550	Del. quantity	•	1000
Aneroid pressure	: 1000	+ cm3/1000 strokes	:	63.5
auantity	: 1000	+ Tolerance + cm3/1000 strokes	:	2.0
cm3/1000 strokes	: 14.0	Check tolerance		7.5
Tolerance cm3/1000 strokes	: 2.0	+ cm3/1000s. + Shutoff solenoid	:	3.5
Check tolerance		+ Volt	:	24
cm3/1000s. Shutoff solenoid	: 6.0	KSB/AFB Volt	:	24
Volt	: 24	+		<b>450</b>
KSB/AFB Volt	: 24	+ Rated speed rpm + Aneroid pressure	:	650
<b>5</b> . 1	4500	+ hPa	:	1000
Rated speed rpm Aneroid pressure	: 1500	+ Del. quantity + cm3/1000 strokes	:	62.5
hPa	: 1000	+ Tolerance		0.5
Del. quantity cm3/1000 strokes	: 39.0	+ cm3/1000 strokes + Check tolerance	•	0.5
Tolerance	: 6.0	+ cm3/1000s. + Shutoff solenoid	:	3.5
cm3/1000 strokes Check tolerance	: 0.0	+ Volt	:	24
cm3/1000s. Shutoff solenoid	: 10.0	Rated speed rpm	:	500
Volt	: 24	Aneroid pressure	•	
KSB/AFB Volt	: 24	+ hPa + Tolerance	:	80
NSB/AFB VULL		cm3/1000 strokes	:	0.5
Rated speed rpm Aneroid pressure	: 1600	+ Check tolerance + cm3/1000s.		0.5
hPa	: 1000	+ Check tolerance	•	
Del. quantity cm3/1000 strokes	: 1.5	+ cm3/1000s. + Shutoff solenoid	:	0.5
Tolerance		Volt	:	24
cm3/1000 strokes Check tolerance	: 1.5	+ + KSB/AFB Volt	:	24
cm3/1000s.	: 1.5	+		
		+ Rated speed rpm	:	500

<b>A</b>		l about and	
Aneroid pressure hPa	: 220	+ Check tolerance + cm3/1000s.	; 5.0
Del. quantity	. 220	Shutoff solenoid	, 5.0
cm3/1000 strokes	: 11.0	+ Volt	: 24
Check tolerance		1	
cm3/1000s.	: 1.5	∔ KSB/AFB Volt	: 24
Shutoff solenoid		+	
Volt	: 24	+	
	•	+	
KSB/AFB Volt	: 24	†	
		†	
		T START TRANSITION	
ELECTR. SHUTOFF		I START TRAINSTITUTE	
CONTROL LEVER, ID	LE STOP	Rated speed rpm	: 230
TOTAL CENTERLY 10	22 0.0.	+ Del. quantity	
Rated speed rpm	: 350	+ cm3/1000 strokes	: 60.0
Del. quantity		+ Tolerance	
cm3/1000 strokes	: 1.5	+ cm3/1000 strokes	: 10.0
Tolerance		+ Shutoff solenoid	
cm3/1000 strokes	: 1.5	+ Volt	: 24
Check tolerance	: 1.5	+ VSD (AFB. Val+	: 24
cm3/1000s. Spread	: 1.5	+ KSB/AFB Volt	: 24
cm3/1000 strokes	: 5.0	I	
CIIDI 1000 SCI ORCS	. ,	+ Rated speed rpm	: 140
FULL-LOAD STOP CO	NTROL LEVER	+ Del. quantity	, ,,,
		+ cm3/1000 strokes	: 100.0
Rated speed rpm	: 350	+ Tolerance	
Del. quantity		+ cm3/1000 strokes	: 25.0
cm3/1000 strokes	: 1.5	+ Shutoff solenoid	
Tolerance	. 4.5	† Volt	: 24
cm3/1000 strokes	: 1.5	↑ ↓ KSB/AFB Volt	: 24
Spread cm3/1000 strokes	: 5.0	I KSB/AFB VOLL	. 24
Check tolerance			
cm3/1000S.	: 1.5	ASSEMBLY AND ADJU	ISTMENT DIMENSIONS
Spread		+	
cm3/1000 strokes	: 5.0	+ Dimension K mm	: 3,6
		+ Tolerance mm	: +-0,1
IDLE DELIVERY		+ Dimension KF mm	
Dated cased and	. 425	Tolerance mm	: +-0,2
Rated speed rpm	: 425	+ MS1 dimension mm	: +-0,2 : 1,3
Del. quantity		+ MS1 dimension mm + Tolerance mm	: +-0,2 : 1,3 : +0,15/-0,1
	: 1.5	+ MS1 dimension mm	: +-0,2 : 1,3 : +0,15/-0,1
Del. quantity cm3/1000 strokes	: 1.5	+ MS1 dimension mm + Tolerance mm	: +-0,2 : 1,3 : +0,15/-0,1
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1.5 : 1.5	MS1 dimension mm Tolerance mm KSB travel mm	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1.5	MS1 dimension mm Tolerance mm KSB travel mm CONTROL LEVER POS	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: 1.5 : 1.5 : 1.5	MS1 dimension mm Tolerance mm KSB travel mm	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1.5 : 1.5	MS1 dimension mm Tolerance mm KSB travel mm CONTROL LEVER POS	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	: 1.5 : 1.5 : 1.5 : 24	MS1 dimension mm Tolerance mm KSB travel mm CONTROL LEVER POS SET	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: 1.5 : 1.5 : 1.5	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET Control lever	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	: 1.5 : 1.5 : 1.5 : 24 : 24	MS1 dimension mm Tolerance mm KSB travel mm CONTROL LEVER POS SET	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm	: 1.5 : 1.5 : 1.5 : 24 : 24	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET Control lever	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	: 1.5 : 1.5 : 1.5 : 24 : 24	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET  Control lever position YA mm	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0 SITION : 37,939,9
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1.5 : 1.5 : 1.5 : 24 : 24 : 300 : 41.5	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET  Control lever position YA mm  Control lever	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0 SITION : 37,939,9
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: 1.5 : 1.5 : 1.5 : 24 : 24 : 300 : 41.5	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET  Control lever position YA mm  Control lever	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0 SITION : 37,939,9
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  KSB/AFB Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1.5 : 1.5 : 1.5 : 24 : 24 : 300 : 41.5	MS1 dimension mm Tolerance mm KSB travel mm  CONTROL LEVER POS SET  Control lever position YA mm  Control lever	: +-0,2 : 1,3 : +0,15/-0,1 : 10,0 SITION : 37,939,9

Shutoff solenoid BOSCH INJ. PUMP TEST SPECIFICATIONS Volt 12 Note remarks SUPPLY PUMP PRESSURE Refer to Service Info for test and Rated speed rpm : 1250 adjustment instructions. See microcard(s) W400/... Setting hPa 5.3 Tolerance hPa 0.3 • : 27,09,93 Shutoff solenoid Edition Test oil : ISO 4113 Volt 12 : 0 460 494 079 FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Part no. Pump designation: VE4/9F2250R84 Rated speed rpm : 1500 Del. quantity Customer—spec. information cm3/1000 strokes : 38.0 Tolerance Customer : PSA : XD3 505D cm3/1000 strokes : Motor 0.5 Spread cm3/1000 strokes : 2.5 TEST BENCH REQUIREMENTS Shutoff solenoid Volt 12 Overflow 0.55 IDLE SETTING restriction mm Rated speed rpm 400 Inlet press. bar : 0.35 Del. quantity cm3/1000 strokes : Tolerance bar 0.05 8.0 Tolerance cm3/1000 strokes : 2.0 Test nozzle holde Shutoff solenoid : 1 688 901 022 12 assembly Volt Spread cm3/1000 strokes : 2.5 Opening pressure bar 130 Check tolerance Tolerance bar 3 cm3/1000s.3.0 Test lines : 1 680 750 073 FULL-LOAD SPEED REGULATION Outside diameter : 6.00 Rated speed rpm 2325 Del. quantity cm3/1000 strokes : x inside diameter : 2.00 28.5 x length mm 450 Tolerance cm3/1000 strokes : 3.0 Shutoff solenoid 12 REMARKS Volt STARTING FUEL DELIVERY 100 Rated speed rpm INJECTION PUMP SETTING VALUES Del. quantity cm3/1000 strokes : 60.0 TIMING DEVICE TRAVEL Tolerance cm3/1000 strokes 15.0 Rated speed rpm : 1250 Shutoff solenoid 12 Volt Setting mm : Tolerance mm 0.2

**80H** 

LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN		+ Supply pomp + pressure bar : 7.2 + Tolerance hPa : 0.3 - Shutoff solenoid + Volt : 12
Rated speed rpm	: 1250	+ Rated speed rpm : 700
Del. quantity cm3/1000 strokes Tolerance	: -10.0	+ Supply pomp + pressure bar : 3.3 + Tolerance hPa : 0.3
cm3/1000 strokes Shutoff solenoid		+ Shutoff solenoid + Volt : 12
Volt	: 12	OVERFLOW QUANTITY
PRESSURE DIFFEREN		Rated speed rpm : 2200
Rated speed rpm Del. quantity cm3/1000 strokes		+ Overflow quantity + ccm/10s : 97.2 + Tolerance
Tolerance cm3/1000 strokes		ccm/10s : 41.6
Shutoff solenoid Volt	: 12	Check tolerance : 41.6
TIMING-DEVICE TRA	VEL DIFFERENCE	+ Shutoff solenoid + Volt : 12
Rated speed rpm Del. quantity	: 1250	Rated speed rpm : 600 Overflow quantity
cm3/1000 strokes Tolerance	: -1.0	ccm/10s : 62.5 Tolerance
cm3/1000 strokes Shutoff solenoid	: 0.1	ccm/10s : 20.8
Volt	: 12	Check tolerance : 20.8
INJECTION-PUMP TE	ST SPECIFICATIONS	+ Shutoff solenoid + Volt : 12
TIMING DEVICE CHA	RACTERISTIC	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm	: 2000	Rated speed rpm : 2325 Del. quantity
SV travel mm Tolerance mm	: 8.6 : 0.4	- cm3/1000 strokes : 28.5 - Tolerance
Check tolerance mm	: 1.0	- cm3/1000 strokes : 3.0 - Check tolerance
Shutoff solenoid Volt	: 12	+ cm3/1000s. : 8.0 + Shutoff solenoid
Rated speed rpm	: 800	+ Volt : 12 + Rated speed rpm : 2450
SV travel mm	: 1.2 : 0.4	+ Rated speed rpm : 2450 + Del. quantity + cm3/1000 strokes : 8.5
Tolerance mm Check tolerance mm	: 1.0	Check tolerance - cm3/1000s. : 8.0
Shutoff solenoid Volt	: 12	Shutoff solenoid Volt : 12
	URE CHARACTERISTIC	Rated speed rpm : 2550
Rated speed rpm	: 2000	+ Del. quantity + cm3/1000 strokes : 1.0

H09

Tolerance			+			
cm3/1000 strokes Check tolerance	:	1.0	+	ELECTR. SHUTOFF	-	
cm3/1000s. Shutoff solenoid	:	2.0	1	CONTROL LEVER, II	LE	STOP
Volt	:	12	1	Rated speed rpm Del. quantity	:	400
Rated speed rpm Del. quantity	:	2200	1	cm3/1000 strokes Tolerance	:	1.5
cm3/1000 strokes Tolerance	:	40.0	1	cm3/1000 strokes Check tolerance	:	1.5
cm3/1000 strokes Check tolerance	:	1.0	<u> </u>	cm3/1000s.	:	1.5
cm3/1000s. Shutoff solenoid	:	4.0	1	IDLE DELIVERY		
Volt	:	12	1	Rated speed rpm		440
Rated speed rpm Del. quantity	:	2000	1	Del. quantity cm3/1000 strokes		1.0
cm3/1000 strokes Tolerance	:	39.5	1	Tolerance cm3/1000 strokes		1.0
cm3/1000 strokes Check tolerance	:	1.0	1	Check tolerance cm3/1000s.	•	1.0
cm3/1000s. Shutoff solenoid	:	4.5	1	Shutoff solenoid Volt	:	12
Volt	:	12	†	Rated speed rpm		350
Rated speed rpm Del. quantity	:	600	1	Del. quantity cm3/1000 strokes		28.0
cm3/1000 strokes Tolerance	•	37.0	1	Tolerance cm3/1000 strokes		4.0
cm3/1000 strokes Check tolerance	:	1.5	1	Check tolerance cm3/1000s.	•	8.0
cm3/1000s. Shutoff solenoid	:	4.5	1	Shutoff solenoid Volt	•	12
Volt	:	12	1	1011	•	
Rated speed rpm Del. quantity	:	1500	<u></u>			
cm3/1000 strokes Tolerance	:	38.0	1	CHECKING LOAD-DEP	END	ENT
cm3/1000 strokes Check tolerance	:	0.5	+	START OF DELIVERY		
cm3/1000s. Shutoff solenoid	:	3.5	+	DELIVERY DIFFEREN	CE	
Volt	:	12	+	Rated speed rpm Del. quantity	:	1250
MECHANICAL SHUTOF	 F			cm3/1000 strokes Tolerance	:	
Rated speed rpm	:	2200	‡	cm3/1000 strokes Check tolerance	:	
Del. quantity cm3/1000 strokes			‡	cm3/1000s. Shutoff solenoid	:	5.0
Tolerance cm3/1000 strokes	:	1.5	‡	Volt	:	12
Check tolerance cm3/1000s.	:	1.5	‡	TIMING-DEVICE TRA		
Shutoff solenoid Volt	:	12	‡	Rated speed rpm Del. quantity		
			+	cm3/1000 strokes	:	-1.0

Tolerance
cm3/1000 strokes : 0.1
Check tolerance
cm3/1000s. : 0.1
Shutoff solenoid
Volt : 12

# START TRANSITION

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 40.0
Tolerance
cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 350 Del. quantity

cm3/1000 strokes : 65.0

Tolerance

cm3/1000 strokes : 20.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : K1
Tolerance mm : +-0,1
Dimension KF mm : 5,5
Tolerance mm : +-0,2
Dimension MS mm : 1,1
Tolerance mm : +-0,2
TLA travel mm : 12,7

# CONTROL LEVER POSITION SET

Control lever

position YA mm : 19,1..23,1

Control lever

position YB mm : 66,5..83,5

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 27.03.96 Edition Test oil : ISO 4113

: 0 460 414 118 Part no. Pump designation : VE4/11F2250L619

Customer-spec. information Customer : ROVER Motor : TCi-em Power KW 63.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance °C

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 116 assembly

Opening pressure

207 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,55

Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

1500 hPa

7.4 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Aneroid pressure

hPa 1500

7.0 Setting hPa Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure

hPa 1500

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.4.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 700

Del. quantity cm3/1000 strokes : 42.5

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s.4.0

IDLE SETTING

Rated speed rpm : 375

H12

Del. quantity		+ Aneroid pressure			
cm3/1000 strokes	: 6.0	→ hPa	:	1500	
Tolerance		+ Tolerance mm	•	0.4	
cm3/1000 strokes	: 2.0	Check	•	0. (	
	. 2.0	•		0.0	
Shutoff solenoid	• •	+ tolerance mm	:	0.9	
Volt	: 12	+ Shutoff solenoid			
Spread		∔ Volt	:	12	
cm3/1000 strokes	: 4.0	1			
Check tolerance		+ Rated speed rpm	:	800	
	: 4.5			000	
cm3/1000s.	: 4.5	+ Aneroid pressure		4500	
		+ hPa	:	1500	
		+			
FULL-LOAD SPEED R	EGULATION	+ SV travel mm	:	6.6	
		+ Tolerance mm	•	0.4	
Rated speed rpm	: 2580	+ Check	•	0.4	
Rated Speed Phil		· · · · · · · · · · · · · · · · · · ·		0.0	
Pressure hPa	: 1500	+ tolerance mm	:	0.9	
Del. quantity		+ Shutoff solenoid			
cm3/1000 strokes	: 20.0	∔ Volt	:	12	
Tolerance		1			
cm3/1000 strokes	: 2.0	+ Rated speed rpm	•	2000	
Shutoff solenoid	. 2.0			2000	
	40	+ Aneroid pressure		4500	
Volt	: 12	+ hPa	:	1500	
		+			
STARTING FUEL DEL	.IVERY	+ SV travel mm	:	0.3	
		+ Tolerance mm	•	0.3	
Rated speed rpm	: 100	Check	•	0.0	
	. 100			0.7	
Del. quantity	24.2	+ tolerance mm	:	0.3	
cm3/1000 strokes	: 96.0	+ Shutoff solenoid			
Tolerance		∔ Volt	:	12	
cm3/1000 strokes	: 1.0	+			
cm3/1000 strokes	: 1.0	Timing device			
Shutoff solenoid		Timing device		100	
	: 1.0 : 12	Timing device solenoid Volt	:	100	
Shutoff solenoid Volt	: 12	solenoid Volt	:		
Shutoff solenoid Volt SET GRADUATED STA	: 12 RTING DELIVERY		: SURE		. C
Shutoff solenoid Volt SET GRADUATED STA	: 12 RTING DELIVERY	solenoid Volt	: SURE		C
Shutoff solenoid Volt	: 12 RTING DELIVERY	solenoid Volt SUPPLY PUMP PRES		CHARACTERIST	.c
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID	: 12 RTING DELIVERY LE STOP	solenoid Volt SUPPLY PUMP PRES Rated speed rpm	:	CHARACTERIST	: <b>C</b>
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm	: 12 RTING DELIVERY LE STOP	solenoid Volt SUPPLY PUMP PRES Rated speed rpm Aneroid pressure	:	CHARACTERISTI	<b>(C</b>
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance	: 12 RTING DELIVERY LE STOP : 2000	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa	:	CHARACTERIST	: <b>C</b>
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp	:	CHARACTERISTI 1400 1500	C
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance	: 12  RTING DELIVERY LE STOP : 2000 : 0.5	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar	:	CHARACTERISTI 1400 1500 7.5	( <b>C</b>
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar	:	CHARACTERISTI 1400 1500 7.5	CC
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid	: 12  RTING DELIVERY LE STOP : 2000 : 0.5	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa	:	CHARACTERISTI 1400 1500 7.5	: <b>c</b>
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid	:	CHARACTERISTI 1400 1500 7.5 0.3	:C
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt SETTING GRAD. STA	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa	:	CHARACTERISTI 1400 1500 7.5	cc
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY	solenoid Volt  SUPPLY PUMP PRES.  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt	: : : : :	CHARACTERISTI 1400 1500 7.5 0.3	cc
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt SETTING GRAD. STA FULL-LOAD STOP CO	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER	solenoid Volt  SUPPLY PUMP PRES.  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3	CC.
Shutoff solenoid Volt SET GRADUATED STA CONTROL LEVER, ID Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt SETTING GRAD. STA	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER	solenoid Volt  SUPPLY PUMP PRES.  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800	(C
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER	solenoid Volt  SUPPLY PUMP PRES.  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800	CC.
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500	í.c
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7	í.c
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Tolerance hPa	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Tolerance hPa	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Volt	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Supply pomp pressure bar Tolerance hPa Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3	CC
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100  : 50.0  : 1.0  : 12	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	CC
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 12  RTING DELIVERY LE STOP  : 2000 : 0.5 : 12  RTING FUEL DELIVERY NTROL LEVER : 100 : 50.0 : 1.0	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY Rated speed rpm		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TERMINISTANCE ST	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100  : 50.0  : 1.0  : 12	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Aneroid pressure		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CO  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100  : 50.0  : 1.0  : 12	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Aneroid pressure hPa Aneroid pressure hPa		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TERMINISTANCE ST	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100  : 50.0  : 1.0  : 12	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Aneroid pressure hPa Aneroid pressure hPa		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	cc
Shutoff solenoid Volt  SET GRADUATED STA CONTROL LEVER, ID  Rated speed rpm Tolerance cm3/1000 strokes Shutoff solenoid Volt  SETTING GRAD. STA FULL-LOAD STOP CORated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  INJECTION-PUMP TERMINISTANCE ST	: 12  RTING DELIVERY LE STOP  : 2000  : 0.5  : 12  RTING FUEL DELIVERY NTROL LEVER  : 100  : 50.0  : 1.0  : 12  ST SPECIFICATIONS  RACTERISTIC	solenoid Volt  SUPPLY PUMP PRES  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt  OVERFLOW QUANTITY  Rated speed rpm Aneroid pressure		CHARACTERISTI 1400 1500 7.5 0.3 12 800 1500 6.7 0.3 12	cc

H13

Tolerance ccm/10s	: 55.5	Aneroid pressure hPa : 500
Check tolerance ccm/10s Shutoff solenoid	: 55.5	LDA/ HBA stroke mm : 6.6 Del. quantity
Volt	: 12	cm3/1000 strokes : 54.0 Tolerance
Rated speed rpm Aneroid pressure	: 2000	cm3/1000 strokes : 0.5 Check tolerance
hPa Overflow quantity	: 1500	cm3/1000s. : 3.2 Shutoff solenoid
ccm/10s Tolerance	: 138.8	Volt : 12
ccm/10s	: 55.5	Rated speed rpm : 2000 Aneroid pressure
Check tolerance ccm/10s	<b>:</b> 55.5	+ hPa : 1500 + Del. quantity
Shutoff solenoid Volt	: 12	cm3/1000 strokes : 60.0
	NKAWAY CHARACTERISTIC	cm3/1000 strokes : 2.0 Check tolerance
Rated speed rpm	: 2580	cm3/1000s. : 3.2 Shutoff solenoid
Aneroid pressure hPa	: 1500	Volt : 12
Del. quantity cm3/1000 strokes		Rated speed rpm : 1000 Aneroid pressure
Tolerance cm3/1000 strokes		hPa : 1500 Del. quantity
Check tolerance cm3/1000s.	: 5.0	cm3/1000 strokes : 63.0 Tolerance
Shutoff solenoid Volt	: 12	cm3/1000 strokes : 2.5 Check tolerance
Rated speed rpm	: 2450	+ cm3/1000s. : 4.0 + Shutoff solenoid
Aneroid pressure hPa	: 1500	Volt : 12
Del. quantity		Rated speed rpm : 1250
cm3/1000 strokes Tolerance		+ Aneroid pressure + hPa : 1500
cm3/1000 strokes Check tolerance		Del. quantity cm3/1000 strokes : 60.0
cm3/1000s. Shutoff solenoid	: 6.0	Tolerance cm3/1000 strokes : 0.5
Volt	: 12 : 2670	+ Check tolerance + cm3/1000S. : 2.8 + Shutoff solenoid
Rated speed rpm Aneroid pressure		Volt : 12
hPa Del. quantity	: 1500	Ŧ
cm3/1000 strokes Tolerance		ELECTR. SHUTOFF
cm3/1000 strokes Check tolerance	: 1.5	+ CONTROL LEVER, IDLE STOP
cm3/1000s. Shutoff solenoid	: 1.5	+ Rated speed rpm : 375 + Del. quantity
Volt	: 12	cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm	: 1000	+ cm3/1000 strokes : 1.5

:	1.5 5.0	
NTRO	L LEVER	
:	375	
:	1.5	
:	1.5	
:	5.0	
:	1.5	
:	5.0	
:	480	
:	1.5	
:	1.5	
:	1.5	
:	12	
:	320	
:	45.0	
:	20.0	
:	12	
•	180	
-		
-		
:	12	
	: DNTRO : : : : : : : : : : : : : : : : : : :	: 5.0  CNTROL LEVER  : 375  : 1.5  : 1.5  : 5.0  : 1.5  : 5.0  : 480  : 1.5

LDA/ HBA stroke mm : 6.6 Dimension K mm : 3,3 Tolerance mm : +-0,1 Dimension KF mm : 6,7 Tolerance mm : +-0,2 MS1 dimension mm : 1,5 Tolerance mm : +0,15/-0,1	
MICROSWITCH SET	
mm : GST 76,9	
CONTROL LEVER POSITION SET	
Control lever position YA mm : 35,839,8	
Control lever position YB mm : 48,157,9	

BOSCH INJ. R	PUMP	TEST	SPECIFICATIONS
--------------	------	------	----------------

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.03.96 Test oil : ISO 4113

: 0 460 414 137 Part no. Pump designation : VE4/11F1250L678

Customer-spec. information : IVECO-FIAT Customer : 8045.25K.214 Motor Power KW 69.0

### TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

950 Rated speed rpm Aneroid pressure 1000 hPa Setting mm 2.8

Tolerance mm 0.2 Shutoff solenoid 12

Volt

## SUPPLY PUMP PRESSURE

Rated speed rpm 950 Aneroid pressure 'nΡa 1000 7.3 Setting hPa Tolerance hPa 0.3 Shutoff solenoid

Volt 12

### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 750 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 74.5 Tolerance cm3/1000 strokes : 0.5 Spread 3.5 cm3/1000 strokes : Check tolerance cm3/1000s.4.0 Shutoff solenoid 12 Volt

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500 Del. quantity cm3/1000 strokes : 52.0 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid 12 Volt Check tolerance cm3/1000s. 4.0

# IDLE SETTING

335 Rated speed rpm Del. quantity cm3/1000 strokes : 9.0 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid 12 Volt

Company			1 Committee mamm	
Spread cm3/1000 strokes		3.5	+ Supply pomp + pressure bar : 8.0	
Check tolerance	•	3.7	Tolerance hPa : 0.3	
cm3/1000s.	:	4.0	+ Shutoff solenoid	
	•	,,,	+ Volt : 12	
			+	
FULL-LOAD SPEED F	REGU	LATION	+ Rated speed rpm : 800	
		4770	+ Aneroid pressure	
Rated speed rpm	:	1330 1000	hPa : 1000	
Pressure hPa Del. quantity	•	1000	+ Supply pomp + pressure bar : 6.4	
cm3/1000 strokes	•	56.0	Tolerance hPa : 0.3	
Tolerance	•		+ Shutoff solenoid	
cm3/1000 strokes	:	3.0	+ Volt : 12	
Shutoff solenoid			+	
Volt	:	12	+ OVERFLOW QUANTITY	
STARTING FUEL DEL	TVE	DY	Rated speed rpm : 1250	
OLYWITING LOCK NEG		IX I	Aneroid pressure	
Rated speed rpm	:	100	+ hPa : 1000	
Del. quantity			+ Overflow quantity	
cm3/1000 strokes	:	100.0	+ ccm/10s : 97.2	
Tolerance		20.0	+ Tolerance	
cm3/1000 strokes Shutoff solenoid	:	20.0	+ ccm/10s : 41.6	
Volt		12	Check tolerance	
1011	•		+ ccm/10s : 41.6	
			+ Shutoff solenoid	
			+ Volt : 12	
			- <del></del>	
			Retail cheed non . 350	
TN.IECTION-PIMP TE	ST	SPECIFICAT	Rated speed rpm : 350	
INJECTION-PUMP TE	ST	SPECIFICAT.		
INJECTION-PUMP TE			ONS + Aneroid pressure + hPa : 1000 + Overflow quantity	
TIMING DEVICE CHA	RAC	TERISTIC	ONS + Aneroid pressure + hPa : 1000 + Overflow quantity + ccm/10s : 63.8	
TIMING DEVICE CHA	RAC	TERISTIC	ONS Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure	RAC	TERISTIC 1100	ONS + Aneroid pressure + hPa : 1000 + Overflow quantity + ccm/10s : 63.8	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RAC	TERISTIC 1100 1000	ONS  Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance  ccm/10s : 22.2	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm	RAC	TERISTIC 1100	ONS Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa	RAC	TERISTIC 1100 1000	ONS  Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance  ccm/10s : 22.2  Check tolerance  ccm/10s : 22.2  Shutoff solenoid	
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid	RAC	1100 1000 0.4 0.7	ONS  Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance  ccm/10s : 22.2  Check tolerance  ccm/10s : 22.2	
TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm	RAC	1100 1000 0.4	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12	DISTIC
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt	RAC	1100 1000 0.4 0.7	ONS  Aneroid pressure  hPa : 1000  Overflow quantity  ccm/10s : 63.8  Tolerance  ccm/10s : 22.2  Check tolerance  ccm/10s : 22.2  Shutoff solenoid	RISTIC
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt	RAC	1100 1000 0.4 0.7	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE	RISTIC
TIMING DEVICE CHARATED Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt	RAC	1100 1000 0.4 0.7	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa	RAC	1100 1000 0.4 0.7 12 800 1000	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm	RAC	1100 1000 0.4 0.7 12 800 1000 1.5	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm	RAC	1100 1000 0.4 0.7 12 800 1000	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check	RAC	1100 1000 0.4 0.7 12 800 1000 1.5 0.4	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm	RAC	1100 1000 0.4 0.7 12 800 1000 1.5	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2 Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check	RAC	1100 1000 0.4 0.7 12 800 1000 1.5 0.4	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt	: : : : :	1100 1000 0.4 0.7 12 800 1000 1.5 0.4 0.7	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0 Shutoff solenoid	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa  SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid	: : : : :	1100 1000 0.4 0.7 12 800 1000 1.5 0.4 0.7	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0 Shutoff solenoid	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt SUPPLY PUMP PRESS	: : : : : : : : : : : : : : : : : : :	1100 1000 0.4 0.7 12 800 1000 1.5 0.4 0.7 12 CHARACTERI	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0 Shutoff solenoid Volt : 12	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm	: : : : : : : : : : : : : : : : : : :	1100 1000 0.4 0.7 12 800 1000 1.5 0.4 0.7 12 CHARACTERI	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0 Shutoff solenoid Volt : 12  Rated speed rpm : 1360	RISTIC
Rated speed rpm Aneroid pressure hPa Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt SUPPLY PUMP PRESS	: : : : : : : : : : : : : : : : : : :	1100 1000 0.4 0.7 12 800 1000 1.5 0.4 0.7 12 CHARACTERI	Aneroid pressure hPa : 1000 Overflow quantity ccm/10s : 63.8 Tolerance ccm/10s : 22.2  Check tolerance ccm/10s : 22.2  Shutoff solenoid Volt : 12  DELIVERY AND BREAKAWAY CHARACTE  Rated speed rpm : 1330 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 8.0 Shutoff solenoid Volt : 12	RISTIC

Del. quantity cm3/1000 strokes	:	38.0	‡	Tolerance cm3/1000 strokes	:	0.5	
Check tolerance cm3/1000s.	:	6.0	‡	Check tolerance cm3/1000s.	:	3.0	
Shutoff solenoid Volt	:	12	‡	Shutoff solenoid Volt	:	12	
Rated speed rpm	:	1470	‡				
Aneroid pressure hPa		1000	1	ELECTR. SHUTOFF			
Del. quantity	•		Ŧ	CONTROL LEVER, II	DLE ST	TOP	
cm3/1000 strokes Tolerance		1.5	‡	Rated speed rpm	:	335	
cm3/1000 strokes Check tolerance	:	1.5	‡	Aneroid pressure hPa	:	1000	
cm3/1000s. Shutoff solenoid	:	1.5	‡	Del. quantity cm3/1000 strokes	:	1.5	
Volt	:	12	1	Tolerance cm3/1000 strokes		1.5	
Rated speed rpm Aneroid pressure	:	500	1	Check tolerance cm3/1000s.		1.5	
hPa	:	250	Ŧ	Spread cm3/1000 strokes	•	5.0	
Del. quantity cm3/1000 strokes	:	63.5	Ŧ				
Tolerance cm3/1000 strokes	:	0.5	‡	FULL-LOAD STOP CO			
Check tolerance cm3/1000s.	:	3.0	‡	Rated speed rpm Aneroid pressure	:	335	
Shutoff solenoid Volt	:	12	‡	hPa Del. quantity	:	1000	
Rated speed rpm	:	1250	1	cm3/1000 strokes Tolerance	:	1.5	
Aneroid pressure		1000	<u>†</u>	cm3/1000 strokes Spread	:	1.5	
Del. quantity cm3/1000 strokes	•	64.5	+	cm3/1000 strokes Check tolerance	:	5.0	
Tolerance			Ŧ	cm3/1000s.	:	1.5	
cm3/1000 strokes Check tolerance	:	1.5	‡	Spread cm3/1000 strokes	:	5.0	
cm3/1000S. Shutoff solenoid	:	3.5	‡	IDLE DELIVERY			
Volt	:	12	‡	Rated speed rpm	:	400	
Rated speed rpm Aneroid pressure	:	350	‡	Del. quantity cm3/1000 strokes	:	1.5	
hPa Del. quantity	:	1000	‡	Tolerance cm3/1000 strokes	•	1.5	
cm3/1000 strokes Tolerance	:	78.5	<u> </u>	Check tolerance cm3/1000s.	•	1.5	
cm3/1000 strokes Check tolerance	:	1.5	Í	Shutoff solenoid Volt		12	
cm3/1000s.	:	3.5	+	Rated speed rpm	:	250	
Shutoff solenoid Volt	:	12	Ŧ	Del. quantity	•	28.0	
Rated speed rpm	:	750	Ŧ	cm3/1000 strokes Tolerance			
Aneroid pressure hPa	:	1000	‡	Check tolerance	•	3.0	
Del. quantity cm3/1000 strokes	:	74.5	‡	cm3/1000s.	:	5.0	

Shutoff solenoid

12 Volt

### START TRANSITION

250 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 58.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

12 Volt

130 Rated speed rpm

Del. quantity

cm3/1000 strokes : 107.0

Tolerance

cm3/1000 strokes : 25.0

Shutoff solenoid

12 Volt

### ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm Tolerance mm : +-0,1 Dimension KF mm : 6,4 : +-0,2 Tolerance mm Dimension MS mm : 1,1

Tolerance mm : +-0,2

# CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,9..36,9

Control lever

: 47,9..52,5 position YB mm

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.04.96 Edition : ISO 4113 Test oil

: 0 460 414 116 Part no. Pump designation: VE4/11F1900R444-1

Customer-spec. information

Customer : IVECO-SOFIM : 8140.47.3700 Motor Power KW 85.0

### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm Aneroid pressure	:	1200
hPa	:	1000
Setting mm Tolerance mm Shutoff solenoid	:	1.8 0.1
Volt	:	12

### SUPPLY PUMP PRESSURE

Rated speed rpm Aneroid pressure	:	1200
hPa	:	1000
Setting hPa	:	6.2
Tolerance hPa Shutoff solenoid	:	0.3
Volt	:	12

### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm Aneroid pressure	:	1400
hPa	:	1000
Del. quantity cm3/1000 strokes	:	56.0
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	•	4.0
Check tolerance	•	
cm3/1000S. Shutoff solenoid	:	4.5
Volt	:	12

### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

550

Del. quantity cm3/1000 strokes	:	27.0
Tolerance cm3/1000 strokes	:	0.5
Shutoff solenoid	•	
Volt	:	12
Check tolerance cm3/1000s.	:	4.5

Rated speed rpm :

### IDLE SETTING

Rated speed rpm	:	325
Del. quantity cm3/1000 strokes	:	17.0
Tolerance cm3/1000 strokes	:	2.0
Shutoff solenoid	•	
Volt	:	12

Spread		+ Del. quantity
cm3/1000 strokes Check tolerance	: 6.0	- cm3/1000 strokes : -0.8 - Tolerance
cm3/1000s.	: 6.5	cm3/1000 strokes : 0.1 Shutoff solenoid
FULL-LOAD SPEED R	EGULATION	+ Volt : 12
Rated speed rpm Pressure hPa	: 2100 : 1000	+ INJECTION-PUMP TEST SPECIFICATIONS
Del. quantity cm3/1000 strokes	: 37.0	TIMING DEVICE CHARACTERISTIC
Tolerance cm3/1000 strokes	: 3.0	+ Rated speed rpm : 1600 + Aneroid pressure
Shutoff solenoid Volt	: 12	† hPa : 1000
OTABETHO PUPI NEU	THEOL	+ SV travel mm : 4.3
STARTING FUEL DEL	LVERY	+ Tolerance mm : 0.4 + Check
Rated speed rpm Del. quantity	: 100	tolerance mm : 0.7 Shutoff solenoid
cm3/1000 strokes Tolerance	: 75.0	volt : 12
cm3/1000 strokes Shutoff solenoid	: 25.0	Rated speed rpm : 1100 Aneroid pressure
Volt	: 12	hPa : 1000
		SV travel mm : 1.1
LOAD-DEPENDENT STA	ART OF DELIVERY	† Tolerance mm : 0.4 † Check
SETTING		tolerance mm : 0.7
DELIVERY DIFFERENCE	CE	+ Shutoff solenoid + Volt : 12
Rated speed rpm	: 1400	Rated speed rpm : 1900
Pressure hPa Del. quantity	: 1000	+ Aneroid pressure + hPa : 1000
cm3/1000 strokes Tolerance	: -26.0	† SV travel mm : 4.9
cm3/1000 strokes Shutoff solenoid	: 1.0	Tolerance mm : 0.4 Check
Volt	: 12	tolerance mm : 0.6 Shutoff solenoid
PRESSURE DIFFERENCE	E	† Volt : 12
Rated speed rpm Aneroid pressure	: 1400	SUPPLY PUMP PRESSURE CHARACTERISTIC
hPa Del. quantity	: 1000	Rated speed rpm : 1900 Aneroid pressure
cm3/1000 strokes Tolerance	: -0.2	hPa : 1000 + Supply pomp
cm3/1000 strokes Shutoff solenoid	: 0.1	pressure bar : 8.7 Tolerance hPa : 0.3
Volt	: 12	Shutoff solenoid Volt : 12
TIMING-DEVICE TRAV	EL DIFFERENCE	+
Rated speed rpm	: 1400	+ Aneroid pressure
Aneroid pressure hPa	: 1000	+ hPa : 1000 +

Supply pomp			+	Aneroid pressure		
pressure bar	:	4.2	+	hPa	:	1000
Tolerance hPa	:	0.3	+	Del. quantity		4 -
Shutoff solenoid		40	†	cm3/1000 strokes	:	1.5
Volt	:	12	†	Tolerance		1.5
OVEREL OU OUANTITY			†	cm3/1000 strokes Check tolerance	:	1.3
OVERFLOW QUANTITY			I	cm3/1000s.		1.5
Rated speed rpm	: 19	200	I	Shutoff solenoid	•	1.5
Aneroid pressure	• '/	00	1	Volt	:	12
hPa	:	1000	1			
Overflow quantity			+	Rated speed rpm	:	700
ccm/10s	: 1	52.7	+	Aneroid pressure		
Tolerance			+	hPa	:	400
ccm/10s	:	27.7	+			
Ohaal Aalamamaa			†	LDA/		( )
Check tolerance ccm/10s	•	27.7	†	HBA stroke mm Del. quantity	:	6.2
Shutoff solenoid	•	21.1	I	cm3/1000 strokes	:	44.0
Volt	•	12	I	Tolerance	•	44.0
1011	•		1	cm3/1000 strokes	:	0.5
Rated speed rpm	: 7	00	1	Check tolerance		
Aneroid pressure			+	cm3/1000s.	:	4.0
hPa		1000	+	Shutoff solenoid		
Overflow quantity			+	Volt	:	12
ccm/10s	: 1	16.6	+			
Tolerance		22.2	†	Rated speed rpm	:	1900
ccm/10s	:	22.2	†	Aneroid pressure hPa	_	1000
Check tolerance			Ī	nra Del. quantity	•	1000
ccm/10s	•	22.2	Ι	cm3/1000 strokes	:	57.0
Shutoff solenoid	•		1	Tolerance	•	37.0
Volt	:	12	<u> </u>	cm3/1000 strokes	:	2.5
	•		1	Check tolerance		
DELIVERY AND BREAK	CAWAY C	HARACTERISTIC	+	cm3/1000s.	:	3.5
			+	Shutoff solenoid		
Rated speed rpm	: 21	00	+	Volt	:	12
Aneroid pressure		4000	+			4200
hPa	:	1000	†	Rated speed rpm	:	1200
Del. quantity cm3/1000 strokes		37.0	T	Aneroid pressure hPa		1000
Tolerance	•	57.0	I	Del. quantity	•	1000
cm3/1000 strokes	:	3.0	1	cm3/1000 strokes	:	55.0
Check tolerance	•	•••	1	Tolerance	•	
cm3/1000s.	:	4.5	+	cm3/1000 strokes	:	2.5
Shutoff solenoid			+	Check tolerance		
Volt	:	12	+	cm3/1000s.	:	4.0
			+	Shutoff solenoid		40
Rated speed rpm	: 22	00	†	Volt	:	12
Aneroid pressure hPa		1000	Ť	Datad anged nom	:	1750
nra Del. quantity	•	1000	I	Rated speed rpm Aneroid pressure	•	1730
cm3/1000 strokes	:	18.0	I	hPa	•	1000
Check tolerance	•	70.0	1	Del. quantity	•	1000
cm3/1000s.	:	6.0	<u> </u>	cm3/1000 strokes	:	58.0
Shutoff solenoid			+	Tolerance		
Volt	:	12	+	cm3/1000 strokes	:	2.5
			+	Check tolerance		<b>-</b> -
Rated speed rpm	: 22	YU	†	cm3/1000s.	:	3.5
			+			

Shutoff solenoid		<b>T</b>	Del. quantity		
Volt	:	12	cm3/1000 strokes	:	1.5
<b>1011</b>	•	+	Tolerance	•	
Rated speed rpm	: 700	) +	cm3/1000 strokes	:	1.5
Aneroid pressure		+	Check tolerance		
hPa	: 10	000 +	cm3/1000s.	:	1.5
Del. quantity		+	Shutoff solenoid		40
cm3/1000 strokes	: 57	·.0 +	Volt	:	12
Tolerance	. ,	5			
cm3/1000 strokes Check tolerance	: 4	··· · · · · · · · · · · · · · · · · ·			
cm3/1000s.	. 5	5.5			
Shutoff solenoid		,,			
Volt	:	12 +	CHECKING LOAD-DEF	PEND	ENT
		+	START OF DELIVERY		
Rated speed rpm	: 1400	) +			
Aneroid pressure		+	DELIVERY DIFFEREN	1CE	
hPa	: 10	)00 <del> </del>			4.55
Del. quantity			Rated speed rpm	:	1400
cm3/1000 strokes	: 56	5.0	Aneroid pressure		1000
Tolerance		).5	hPa	:	1000
cm3/1000 strokes Check tolerance		12	Del. quantity cm3/1000 strokes		-28.0
cm3/1000s.	• 3	3.5	Tolerance	•	20.0
Shutoff solenoid	•	Ţ.,,	cm3/1000 strokes	:	3.0
Volt	:	12 🗼	Check tolerance	•	<b>V</b> 1.5
1011	•	+	cm3/1000s.	:	4.0
		+	Shutoff solenoid		
		<del></del> +	Volt	:	12
ELECTR. SHUTOFF	. = 0700	†	TIMING DEUTGE TO		N. T. E. E. D. E. M. C. E.
CONTROL LEVER, ID	LE 210P	†	TIMING-DEVICE TRA	IVEL	DIFFERENCE
Rated speed rpm	: 325	: I	Rated speed rpm		1400
Del. quantity	. 565	$^{\prime}$	Aneroid pressure	•	1400
cm3/1000 strokes	: 1	.5	hPa	:	1000
Tolerance		<del> </del>	Del. quantity	-	
cm3/1000 strokes	: 1	.5	cm3/1000 strokes	:	-0.8
Check tolerance		+	Tolerance		
cm3/1000s.	: 1	.5 +	cm3/1000 strokes		0.1
Spread	_	+	Check tolerance		2.4
cm3/1000 strokes	: 5	+	cm3/1000s.	:	0.1
FILL LOAN OTOD CO	NEDOL 1 CL	, r. p.   †	Shutoff solenoid		12
FULL-LOAD STOP CO	WIRUL LEV	En I	Volt	•	16
Rated speed rpm	. 325	I	DELIVERY DIFFEREN	CF	
Del. quantity	. ,,,	$\mathbf{I}$	ACCTACIVE ATLUCIVED		
cm3/1000 strokes	: 1	.5	Rated speed rpm	:	1400
Tolerance	• '	4	Aneroid pressure	-	
cm3/1000 strokes	: 1	.5	hPa	:	1000
Spread		+	Del. quantity		
cm3/1000 strokes	: 5	.0 +	cm3/1000 strokes	:	1.5
Check tolerance	_	_ +	Tolerance		A =
cm3/1000s.	: 1	.5	cm3/1000 strokes	:	1.5
Spread		†	Check tolerance		1.5
cm3/1000 strokes	; 5	.0 +	cm3/1000s.	:	1.5
		Ť	Shutoff solenoid Volt		12
THE NELTHERY		T	VULL	•	1 4
IDLE DELIVERY		1			
IDLE DELIVERY Rated speed rpm	: 450	‡	TIMING-DEVICE TRA	VFI	DIFFERENCE

Aneroid pressure	: 1400
hPa	: 1000
Tolerance mm	: 0.2
Check tolerance mm	: 0,4
Shutoff solenoid	. 0.4
Volt	: 12
START TRANSITION	
Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes Tolerance	: 22.0
cm3/1000 strokes	: 8.0
Shutoff solenoid Volt	: 12
Rated speed rpm	: 200
Del. quantity	. 200
cm3/1000 strokes	: 80.0
Tolerance cm3/1000 strokes	: 25.0
Shutoff solenoid	. 25.0
/olt	: 12
DA/ HBA stroke mm Dimension K mm Tolerance mm Dimension KF mm Tolerance mm	: 6.2 : 3,3 : +-0,1 : 8,4 : +-0,2
1S1 dimension mm	: +0,15/-0,1
1S1 dimension mm Tolerance mm	: +0,15/-0,1 : 7,0
MS1 dimension mm Folerance mm (SB travel mm	: +0,15/-0,1 : 7,0
MS1 dimension mm Folerance mm KSB travel mm CONTROL LEVER POSE SET	: +0,15/-0,1 : 7,0 :ITION : 37,939,9

# Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Part no. : 0 460 484 074 Pump designation : VE4/8F2300R598

Customer—spec. information Customer : RENAULT Motor : F8Q - 620 Power KW : 45.0

### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

**REMARKS** 

INJECTION PUMP SETTING VALUES

### TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.7
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.5 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 31.5
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 2.5
Shutoff solenoid
Volt : 12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 3.0
Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid Volt : 12

# FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450
Del. quantity
cm3/1000 strokes : 24.5
Tolerance
cm3/1000 strokes : 3.0
Shutoff solenoid

12

# STARTING FUEL DELIVERY

Volt

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 55.0
Tolerance
cm3/1000 strokes : 15.0

Shutoff solenoid Volt	•	12	t	SUPPLY PUMP PRESS	HIRE	CHARACTERISTI	٠,
	•	, ,	<u> </u>	Rated speed rpm	:	2000	. •
			+	Supply pomp			
LOAD-DEPENDENT ST	ART	OF DELIVERY	+	pressure bar	:	7.7	
SETTING			+	Tolerance hPa	:	0.3	
			+	Shutoff solenoid			
DELIVERY DIFFEREN	CE		Ì	Volt	:	12	
Rated speed rpm Del. quantity	:	1250	‡	Rated speed rpm Supply pomp	:	600	
cm3/1000 strokes	:	-7.0	+	pressure bar	:	3.5	
Tolerance			1	Tolerance hPa	:	0.3	
cm3/1000 strokes	:	1.0	1	Shutoff solenoid	-		
Shutoff solenoid			1	Volt	:	12	
Volt	•	12	1	1011	•		
1011	•	'-	1	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	CE		I	OVERTEON GOARTIE			
THESSORE DIFFEREN	CL		T	Pated speed rom		2250	
Rated speed rpm	:	1250	T	Rated speed rpm Overflow quantity		2200	
	•	1230	Ť			97.2	
Del. quantity		0.0	†	ccm/10s	•	91.2	
cm3/1000 strokes	:	-0.2	†	Tolerance		14.	
Tolerance			†	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	+				
Shutoff solenoid			†	Check tolerance			
Volt	:	12	†	ccm/10s	:	41.6	
			+	Shutoff solenoid			
TIMING-DEVICE TRA	VEL	DIFFERENCE	‡	Volt	:	12	
Rated speed rpm	:	1250	1	Rated speed rpm	:	600	
Del. quantity	•		1	Overflow quantity			
cm3/1000 strokes	•	-0.7	1	ccm/10s	•	63.8	
Tolerance	•	0.7	$\mathbf{I}$	Tolerance	•	05.0	
cm3/1000 strokes		0.1	I	ccm/10s		22.2	
Shutoff solenoid	•	0.1	I	CCIII/ 105	•	CC.C	
Volt		12	Ţ	Check tolerance			
VOCC	•	16	T	ccm/10s		22.2	
					•	22.2	
TALLECTION OF MED. TE	CT C	POCCIETCATIONS	<b>T</b>	Shutoff solenoid		12	
INJECTION-PUMP TE	S 1 3	PECTLICALIONS	Ť	Volt	•	12	
TIMING DEVICE CHA	RACT	TERISTIC	Ī	DELIVERY AND BREA	KAWA	Y CHARACTERIS	TIC
Rated speed rpm	:	2000	1	Rated speed rpm	:	2450	
	•		1	Del. quantity	-		
SV travel mm	•	6.3	1	cm3/1000 strokes	•	24.5	
Tolerance mm	•	0.4	1	Tolerance	•	2115	
Check	•	₩• Т	1	cm3/1000 strokes	•	3.0	
tolerance mm	•	0.6	1	Check tolerance	•	3.0	
Shutoff solenoid	•	0.0	1	cm3/1000S.		4.0	
Volt	•	12	1	Shutoff solenoid	•	7.0	
voct	•	12	I	Volt		12	
Dated speed spe		600	T	VOCE	•	12	
Rated speed rpm	:	000	T	Dated cheed che	:	2650	
Cu Annual		1 2	Ť	Rated speed rpm	•	2000	
SV travel mm	•	1.2	†	Del. quantity		0.5	
Tolerance mm	•	0.4	†	cm3/1000 strokes	:	9.5	
Check	_	0 1	†	Check tolerance		F 0	
tolerance mm	:	0.6	†	cm3/1000S.	•	5.0	
Shutoff solenoid		40	†	Shutoff solenoid		40	
Volt	:	12	+	Volt	:	12	

H26

			†
Rated speed rpm	:	2950	†
Del. quantity cm3/1000 strokes		2.5	ELECTR. SHUTOFF
Tolerance	•	2.5	CONTROL LEVER, IDLE STOP
cm3/1000 strokes	:	2.5	+
Check tolerance			+ Rated speed rpm : 410
cm3/1000s.	:	2.5	† Del. quantity
Shutoff solenoid		40	+ cm3/1000 strokes : 1.5
Volt	:	12	Tolerance + cm3/1000 strokes : 1.5
Rated speed rpm	:	2250	Check tolerance
Del. quantity	•		+ cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+ Spread
Tolerance			+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.0	†
Check tolerance		2.7	+ FULL-LOAD STOP CONTROL LEVER
cm3/1000s. Shutoff solenoid	;	2.3	+ Rated speed rpm : 410
Volt		12	+ Rated speed rpm : 410 + Del. quantity
VOCC	•	"-	- cm3/1000 strokes : 1.5
Rated speed rpm	:	1625	+ Tolerance
Del. quantity			+ cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+ Spread
Tolerance		4 5	cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	:	1.5	+ Check tolerance + cm3/1000s. : 1.5
cm3/1000s.	•	2.3	Spread
Shutoff solenoid	•	2.0	+ cm3/1000 strokes : 5.0
Volt	:	12	+
			+
Rated speed rpm	:	2000	†
Del. quantity cm3/1000 strokes		32.5	†
Tolerance	•	32.3	I
cm3/1000 strokes	:	1.0	CHECKING LOAD-DEPENDENT
Check tolerance	,		START OF DELIVERY
cm3/1000s.	:	2.3	+
Shutoff solenoid		40	+ DELIVERY DIFFERENCE
Volt	:	12	Poted speed npm . 1250
Rated speed rpm	:	600	+ Rated speed rpm : 1250 + Del. quantity
Del. quantity	•	000	cm3/1000 strokes : -9.5
cm3/1000 strokes	•	31.9	Tolerance
Tolerance	•		+ cm3/1000 strokes : 3.0
7/4000			
cm3/1000 strokes		1.5	- Check tolerance
Check tolerance			Check tolerance cm3/1000s. : 3.0
Check tolerance cm3/1000s.		1.5 2.3	Check tolerance cm3/1000S. : 3.0 Shutoff solenoid
Check tolerance cm3/1000s. Shutoff solenoid			Check tolerance cm3/1000s. : 3.0
Check tolerance cm3/1000s.		2.3	Check tolerance cm3/1000S. : 3.0 Shutoff solenoid
Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm		2.3	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE
Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity	: : : :	2.3 12 1250	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	:	2.3 12	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	2.3 12 1250 31.5	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : :	2.3 12 1250	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	2.3 12 1250 31.5	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	2.3 12 1250 31.5 0.5 2.3	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1
Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	2.3 12 1250 31.5 0.5	Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance

Shutoff solenoid Volt : 12

DELIVERY DIFFERENCE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Volt : 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250 Tolerance mm : 0.2

Check

tolerance mm : 0.3

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 310

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 210

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 Tolerance mm : +-0,1

Dimension KF mm : 5,4 Tolerance mm : +-0,2

Dimension MS mm : 1,3

Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8..3,0

: 14,7..15,5

H28

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 30,3..34,3

Control lever

position YB mm : 67,1..69,9

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 : ISO 4113 Test oil

: 0 460 484 075 Part no. Pump designation : VE4/8F2300R598-1

Customer-spec. information : RENAULT Customer : FSQ - 620 CA Motor Power KW 45.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance \*C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter : 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.7 Setting mm Tolerance mm 0.2 Shutoff solenoid 12 Valt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250 :

Setting hPa Tolerance hPa 0.3 Shutoff solenoid

Volt 12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 31.5 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.5 Shutoff solenoid 12 Volt

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 3.0 Tolerance cm3/1000 strokes : 2.0

Shutoff solenoid Volt 12

# FULL-LOAD SPEED REGULATION

Rated speed rpm 2450 Del. quantity cm3/1000 strokes : 24.5

Tolerance cm3/1000 strokes : 3.0

Shutoff solenoid 12 Volt

# STARTING FUEL DELIVERY

Rated speed rpm 100 Del. quantity

cm3/1000 strokes : 55.0

Tolerance

Shutoff solenoid Volt	:	12	‡	SUPPLY PUMP PRESS	URE	CHARACTER	RISTIC
			Ī	Rated speed rpm Supply pomp	:	2000	
LOAD-DEPENDENT ST	TART	OF DELIVERY	1	pressure bar	•	7.7	
SETTING		or veelven	1	Tolerance hPa	:	0.3	
02111140			1	Shutoff solenoid	•	0.5	
DELIVERY DIFFEREN	NCE		Ī	Volt	:	12	
Rated speed rpm Del. quantity	:	1250	1	Rated speed rpm Supply pomp	;	600	
cm3/1000 strokes		-7.0	1	pressure bar		3.5	
Tolerance	•	1.5	1	Tolerance hPa	:	0.3	
cm3/1000 strokes		1.0	I	Shutoff solenoid	•	0.5	
	•	1.0	T			13	
Shutoff solenoid		40	†	Volt	:	12	
Volt	:	12	†				
			+	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	1CE		+				
			1	Rated speed rpm	:	2250	
Rated speed rpm	:	1250	1	Overflow quantity			
	•	1230	T	ccm/10s		97.2	
Del. quantity		0.0	Ţ		•	71.2	
cm3/1000 strokes	:	-0.2	†	Tolerance			
Tolerance			+	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	+				
Shutoff solenoid			+	Check tolerance			
Volt	:	12	1	ccm/10s	:	41.6	
			1	Shutoff solenoid			
TIMING-DEVICE TRA	WEI	DIFFERENCE	1	Volt	•	12	
TIMING DEVICE TRA	1766	DITTENENCE	T	VOCE	•	, ,	
Data damand man	_	1250	Ţ	Dahad annad ann	_	400	
Rated speed rpm	:	1250	Ť	Rated speed rpm		600	
Del. quantity			+	Overflow quantity			
cm3/1000 strokes	:	-0.7	+	ccm/10s	:	63.8	
Tolerance			+	Tolerance			
cm3/1000 strokes	:	0.1	+	ccm/10s	:	22.2	
Shutoff solenoid			1				
Volt	•	12	į.	Check tolerance			
	•	· <del>-</del>	Ţ	ccm/10s	:	22.2	
			1	Shutoff solenoid	•		
TALLECTION BUMB TE	CT C	POPOTETCATIONS	T	Volt		12	
INJECTION-PUMP TE	313	PECTLICATIONS	T	VOCC	•	12	
**************************************		COTOTIO	<b>†</b>	DELTHERY AND DOES	< A 1 1 4	NY CHADACT	CDICTIC
TIMING DEVICE CHA	KALI	EKTOITC	†	DELIVERY AND BREAK	/WW	IT CHARACT	EKIZIIC
		2000	†	<b>~</b>		2450	
Rated speed rpm	:	2000	†	Rated speed rpm	:	2450	
			+	Del. quantity			
SV travel mm	:	6.3	+	cm3/1000 strokes	:	24.5	
Tolerance mm	:	0.4	+	Tolerance			
Check			+	cm3/1000 strokes	:	3.0	
tolerance mm	:	0.6	1	Check tolerance			
Shutoff solenoid			1	cm3/1000s.	•	4.0	
Volt	•	12	1	Shutoff solenoid			
1011	•		1	Volt	•	12	
Rated speed rpm	:	600	1	1011	•		
naced speed (pil	•	300	1	Rated speed rpm	:	2650	
CVI to a contract	_	4 3	T		•	2000	
SV travel mm	:	1.2	†	Del. quantity		٥.5	
Tolerance mm	:	0.4	†	cm3/1000 strokes	:	9.5	
Check			†	Check tolerance			
tolerance mm	:	0.6	+	cm3/1000s.	:	5.0	
Shutoff solenoid			+	Shutoff solenoid			
Volt	:	12	+	Volt	:	12	
100							

J02

			+
Rated speed rpm	:	2950	+
Del. quantity			
cm3/1000 strokes	:	2.5	→ ELECTR. SHUTOFF
Tolerance			+ CONTROL LEVER, IDLE STOP
cm3/1000 strokes	:	2.5	<del>-</del>
Check tolerance			+ Rated speed rpm : 410
cm3/1000s.	:	2.5	+ Del. quantity
Shutoff solenoid			+ cm3/1000 strokes : 1.5
Volt	:	12	Tolerance
	-	. –	+ cm3/1000 strokes : 1.5
Rated speed rpm	•	2250	+ Check tolerance
Del. quantity	•	-	+ cm3/1000s. : 1.5
cm3/1000 strokes	•	32.1	+ Spread
Tolerance	•	0211	+ cm3/1000 strokes : 5.0
cm3/1000 strokes	•	1.0	
Check tolerance	•	,	↓ FULL-LOAD STOP CONTROL LEVER
cm3/1000s.		2.3	TOLE COMP OF CONTINUE ELVEN
Shutoff solenoid	•	2.5	Rated speed rpm : 410
Volt		12	Del. quantity
VOCC	•	12	- cm3/1000 strokes : 1.5
Rated speed rpm		1425	Tolerance
	•	1025	- cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes		31.0	Spread
	:	31.0	+ cm3/1000 strokes : 5.0
Tolerance		1 5	
cm3/1000 strokes	:	1.5	+ Check tolerance
Check tolerance		2.77	+ cm3/1000s. : 1.5
cm3/1000s.	:	2.3	+ Spread
Shutoff solenoid		40	cm3/1000 strokes : 5.0
Volt	:	12	†
			+
		2222	,
Rated speed rpm	:	2000	†
Del. quantity			‡
Del. quantity cm3/1000 strokes		2000 32.5	<del> </del> <del> </del> <del> </del>
Del. quantity cm3/1000 strokes Tolerance	:	32.5	<del>+</del> <del></del>
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:		CHECKING LOAD-DEPENDENT
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	32.5 1.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5	START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	32.5 1.0 2.3	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5 1.0	START OF DELIVERY  DELIVERY DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	32.5 1.0 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	:	32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	:	32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm		32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance

12 Volt

DELIVERY DIFFERENCE

1250 Rated speed rpm

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

Tolerance mm 0.2

Check

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

310 Rated speed rpm

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

210 Rated speed rpm

Dei. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

Tolerance mm : +-0,1

Dimension KF mm : 5,4

Tolerance mm : +-0,2

Dimension MS mm : 1,3

Tolerance mm : +-0,2

MICROSWITCH

SET

: 0,8..3,0 mm

: 14,7..15,5

J04

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 30,3..34,3

Control lever

: 67,1..79,9 position YB mm

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.04.96 Edition Test oil : ISO 4113

: 0 460 484 087 Part no. Pump designation : VE4/8F2300R598-2

Customer-spec. information Customer : RENAULT Motor : F8Q - 620 Power KW 45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

0.35 Inlet press. bar : Tolerance bar 0.05 :

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Settina mm 3.7 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 5.5 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1250 Rated speed rpm : Del. quantity

cm3/1000 strokes : 31.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes 2.0

Shutoff solenoid

Volt

12

FULL-LOAD SPEED REGULATION

Rated speed rpm 2450

Del. quantity

cm3/1000 strokes : 24.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

Shutoff solenoid Volt	•	12	İ	SUPPLY PUMP PRESS	IIDE	CHADACTER	TOTIC
<b>VOCC</b>	•	, ,	$\frac{1}{1}$	Rated speed rpm			110110
			Ī	Supply pomp	•	2000	
LOAD-DEPENDENT ST	ART	OF DELIVERY	1	pressure bar	:	7.7	
SETTING			+	Tolerance hPa	:	0.3	
			+	Shutoff solenoid			
DELIVERY DIFFEREN	ICE		+	Volt	:	12	
			+				
Rated speed rpm	:	1250	+	Rated speed rpm	:	600	
Del. quantity		7.0	†	Supply pomp		7 -	
cm3/1000 strokes Tolerance	:	-7.0	†	pressure bar	:	3.5 0.3	
cm3/1000 strokes		1.0	Ī	Tolerance hPa Shutoff solenoid	•	0.3	
Shutoff solenoid	•	1.0	I	Volt		12	
Volt	•	12	I	VOCE	•	, _	
1011	•		1	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	CE		1				
			+	Rated speed rpm	:	2250	
Rated speed rpm	:	1250	+	Overflow quantity			
Del. quantity		_	+	ccm/10s	:	97.2	
cm3/1000 strokes	:	-0.2	+	Tolerance			
Tolerance		0.4	†	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	†	Charl Arlanana			
Shutoff solenoid		12	†	Check tolerance ccm/10s		41.6	
Volt	•	12	Ī	Shutoff solenoid	•	41.0	
TIMING-DEVICE TRA	VEI	DIFFERENCE	I	Volt	•	12	
ITITIO PEATOE INA	V.C.	DITTENCIACE	- ↓	VOCC	•		
Rated speed rpm	:	1250	1	Rated speed rpm	:	600	
Del. quantity			+	Overflow quantity			
cm3/1000 strokes	:	-0.7	+	ccm/10s	:	63.8	
Tolerance			+	Tolerance			
cm3/1000 strokes	:	0.1	+	ccm/10s	:	22.2	
Shutoff solenoid	_	10	†	Chaol, Aslamana			
Volt	:	12	Ī	Check tolerance ccm/10s		22.2	
معه سند سيد چيد کشا «هند اسيا مين <sub>س</sub> يد، بنيد سايا شنبه است چيد بسي بين» د		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	I	Shutoff solenoid	•	22.2	
INJECTION-PUMP TE	ST S	PECIFICATIONS	1	Volt	:	12	
2,102012011 / 0/11 12			+		•		
TIMING DEVICE CHA	RACT	ERISTIC	1	DELIVERY AND BREA	KAWA	Y CHARACT	ERISTIC
Rated speed rpm	:	2000	1	Rated speed rpm	:	2450	
			+	Del. quantity			
SV travel mm	:	6.3	+	cm3/1000 strokes	:	24.5	
Tolerance mm	:	0.4	+	Tolerance			
Check		•	†	cm3/1000 strokes	:	3.0	
tolerance mm	:	0.6	†	Check tolerance		, 0	
Shutoff solenoid		12	T	cm3/1000S. Shutoff solenoid	•	4.0	
Volt	:	12	I	Volt	•	12	
Rated speed rpm	:	600	1	1011	•		
obses (bm	-	- <del></del>	1	Rated speed rpm	:	2650	
SV travel mm	:	1.2	+	Del. quantity			
Tolerance mm	:	0.4	+	cm3/1000 strokes	:	9.5	
Check			+	Check tolerance			
tolerance mm	:	0.6	†	cm3/1000s.	:	5.0	
Shutoff solenoid		12	<u>†</u>	Shutoff solenoid Volt		12	
Volt	•	12	Ŧ	VOCE	•	14	

J06

Rated speed rpm		2950	†
Del. quantity	•	2730	
cm3/1000 strokes	:	2.5	ELECTR. SHUTOFF
Tolerance		2.5	CONTROL LEVER, IDLE STOP
cm3/1000 strokes Check tolerance	:	2.5	Rated speed rpm : 410
cm3/1000s.	:	2.5	Del. quantity
Shutoff solenoid	-		- cm3/1000 strokes : 1.5
Volt	:	12	+ Tolerance
Rated speed rpm	:	2250	+ cm3/1000 strokes : 1.5 + Check tolerance
Del. quantity	•	2230	cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+ Spread
Tolerance			+ cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	:	1.0	+ + FULL-LOAD STOP CONTROL LEVER
cm3/1000s.	•	2.3	T FOLL-LOAD STOP CONTROL LEVER
Shutoff solenoid	•	2.0	Rated speed rpm : 410
Volt	:	12	+ Del. quantity
Datad speed pp		1625	+ cm3/1000 strokes : 1.5
Rated speed rpm Del. quantity	:	1023	+ Tolerance + cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+ Spread
Tolerance			- cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.5	+ Check tolerance + cm3/1000s. : 1.5
Check tolerance cm3/1000s.		2.3	+ cm3/1000s. : 1.5 + Spread
Shutoff solenoid	•	2.3	+ cm3/1000 strokes : 5.0
Volt	:	12	+
Dakad award man		2000	†
Rated speed rpm Del. quantity	:	2000	Ī
		32.5	1
cm3/1000 strokes	:	20.7	
Tolerance			
Tolerance cm3/1000 strokes		1.0	CHECKING LOAD-DEPENDENT
Tolerance cm3/1000 strokes Check tolerance		1.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
Tolerance cm3/1000 strokes		1.0 2.7	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		1.0	START OF DELIVERY  DELIVERY DIFFERENCE
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	: :	1.0 2.7 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt		1.0 2.7	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	1.0 2.7 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1.0 2.7 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1.0 2.7 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1.0 2.7 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1.0 2.7 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 2.7 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0  Check tolerance cm3/1000s. : 3.0  Shutoff solenoid Volt : 12
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0  Check tolerance cm3/1000s. : 3.0  Shutoff solenoid
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	:	1.0 2.7 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3 12 1250 31.5 0.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	1.0 2.7 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance

Shutoff solenoid 12 Volt DELIVERY DIFFERENCE 1250 Rated speed rpm Del. quantity 5.0 cm3/1000 strokes : Tolerance 3.0 cm3/1000 strokes : Check tolerance cm3/1000s. 3.0 Shutoff solenoid Volt 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm 1250 Tolerance mm 0.2 Check 0.3 tolerance mm Shutoff solenoid 12 Volt START TRANSITION 310 Rated speed rpm : Del. quantity cm3/1000 strokes : 35.0 Tolerance 10.0 cm3/1000 strokes Shutoff solenoid 12 Volt Rated speed rpm 210 Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes 15.0 Shutoff solenoid Volt 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS Dimension K mm : 3,3 : +-0,1 Tolerance mm : 5,4 Dimension KF mm Tolerance mm : +-0,2 Dimension MS mm : 1,3 Tolerance mm : +-0,2

> : 0,8..3,0 : 14,7..15,5

CONTROL LEVER POSITION SET

Control lever

position YA mm : 30,3..34,3

Control lever

position YB mm : 67,1..79,9

End of test-specification sheet

J08

SET

mm

**MICROSWITCH** 

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 15.04.96

Test oil

: ISO 4113

Part no.

: 0 460 484 088

Pump designation: VE4/8F2300R598-J

Customer-spec. information

: RENAULT

Customer Motor

: F8Q - 620 CA

Power KW

45.0

# TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C

45

Tolerance °C

1

### Overflow

restriction mm

0.55

Inlet press. bar :

0.35

Tolerance bar

0.05

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

bar

130

Tolerance bar

3

Test lines

: 1 680 750 073

Outside diameter :

6.00

x inside diameter : x length mm

2.00

450

:

# REMARKS

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm

3.7

Tolerance mm

0.2

Shutoff solenoid

Volt

12

# SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa

Tolerance hPa

0.3

Shutoff solenoid

Volt

12

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1250 Rated speed rpm :

Del. quantity

31.5

cm3/1000 strokes :

Tolerance 0.5

cm3/1000 strokes :

Spread cm3/1000 strokes :

2.5

Shutoff solenoid Volt

12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500

Del. quantity

3.0

cm3/1000 strokes :

Tolerance

cm3/1000 strokes :

Shutoff solenoid

2.0

Volt

12

# FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity

cm3/1000 strokes :

Tolerance

24.5

cm3/1000 strokes :

Shutoff solenoid

3.0

Volt

12

# STARTING FUEL DELIVERY

Rated speed rpm

100

Del. quantity

cm3/1000 strokes :

55.0

Tolerance

Shutoff solenoid Volt	:	12	‡	SUPPLY PUMP PRESS	URE	CHARACTERIST	IC
			‡	Rated speed rpm	:	2000	
LOAD-DEDENDENT OF	ADT	OF DELIVERY	T	Supply pomp		7 7	
LOAD-DEPENDENT ST	AKI	OF DELIVERY	<b>†</b>	pressure bar	•	7.7	
SETTING			†	Tolerance hPa	:	0.3	
			†	Shutoff solenoid			
DELIVERY DIFFEREN	ICE		+	Volt	:	12	
			+				
Rated speed rpm	:	1250	+	Rated speed rpm	:	600	
Del. quantity			+	Supply pomp			
cm3/1000 strokes	:	-7.0	+	pressure bar	:	3.5	
Tolerance			+	Tolerance hPa	:	0.3	
cm3/1000 strokes	:	1.0	1	Shutoff solenoid			
Shutoff solenoid			1	Volt	:	12	
Volt	•	12	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•		
<b>7</b> 000	•		1	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	CE		1	OVERIEUM GOARTITI			
THESSORE DITTEREN	Ų.		1	Rated speed rpm	:	2250	
Rated speed rpm	:	1250	Ţ	Overflow quantity	-	2270	
	•	1230	Ť	ccm/10s		97.2	
Del. quantity	_	-0.2	Ť		•	91.2	
cm3/1000 strokes	•	-0.2	Ť	Tolerance		11 (	
Tolerance		0.4	†	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	†				
Shutoff solenoid			+	Check tolerance			
Volt	:	12	†	ccm/10s	:	41.6	
			+	Shutoff solenoid			
TIMING-DEVICE TRA	VEL	DIFFERENCE	+	Volt	:	12	
			+				
Rated speed rpm	:	1250	+	Rated speed rpm	:	600	
Del. quantity			+	Overflow quantity			
cm3/1000 strokes	:	-0.7	+	ccm/10s	:	63.8	
Tolerance			+	Tolerance			
	:	0.1	+	ccm/10s	:	22.2	
Shutoff solenoid			1				
Volt	:	12	1	Check tolerance			
		_	1	ccm/10s	:	22.2	
			- 1	Shutoff solenoid	Ť		
INJECTION-PUMP TE	ST	SPECIFICATIONS	1	Volt	:	12	
1102012011 70 12	•	2, 201, 10, 1, 10, 10	1		•		
TIMING DEVICE CHA	RAC	TERISTIC	1	DELIVERY AND BREA	KAWA	Y CHARACTERIS	STIC
Rated speed rpm	:	2000	1	Rated speed rpm	:	2450	
veren sheen ihu	•	2000	$\mathbf{I}$	Del. quantity	•	L+JU	
SV tanyol mm		6.3	Ι	cm3/1000 strokes		24.5	
SV travel mm Tolerance mm	:	0.4	T	Tolerance	:	64.7	
	·	0.4	T	cm3/1000 strokes		3.0	
Check		0.6	Ť	Check tolerance	:	٥.0	
tolerance mm	:	0.6	Ť			, 0	
Shutoff solenoid		13	†	cm3/1000s.	•	4.0	
Volt	:	12	†	Shutoff solenoid		42	
<b>5.</b> 4 1	_	/00	†	Volt	:	12	
Rated speed rpm	:	600	†			2720	
<b>-</b>		4.5	+	Rated speed rpm	:	2650	
SV travel mm	:	1.2	†	Del. quantity		^ <b>5</b>	
Tolerance mm	:	0.4	+	cm3/1000 strokes	:	9.5	
Check		<b>.</b> .	+	Check tolerance			
tolerance mm	:	0.6	+	cm3/1000S.	:	5.0	
Shutoff solenoid			+	Shutoff solenoid			
Volt	:	12	+	Volt	:	12	
			•				

D-4-4		3050	†
Rated speed rpm Del. quantity	:	2950	<u> </u>
cm3/1000 strokes	:	2.5	+ ELECTR. SHUTOFF
Tolerance		2.5	+ CONTROL LEVER, IDLE STOP
cm3/1000 strokes Check tolerance	:	2.5	+ + Rated speed rpm : 410
cm3/1000s.	:	2.5	+ Del. quantity
Shutoff solenoid	·		+ cm3/1000 strokes : 1.5
Volt	:	12	+ Tolerance
Rated speed rpm	:	2250	+ cm3/1000 strokes : 1.5 + Check tolerance
Del. quantity	•	2230	- check toterance - cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	Spread
Tolerance		4.0	+ cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	:	1.0	FULL-LOAD STOP CONTROL LEVER
cm3/1000s.	:	2.3	T TOLL-LOAD STOP CONTROL LEVER
Shutoff solenoid	•		Rated speed rpm : 410
Volt	:	12	+ Del. quantity
Dated speed spe	:	1625	+ cm3/1000 strokes : 1.5 + Tolerance
Rated speed rpm Del. quantity	•	1025	- cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+ Spread
Tolerance		4 -	+ cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	:	1.5	+ Check tolerance + cm3/1000s. : 1.5
cm3/1000s.	•	2.3	Spread
Shutoff solenoid	·		+ cm3/1000 strokes : 5.0
Volt	:	12	†
Rated speed rpm	:	2000	İ
	•	2000	Ţ
Del. quantity			<del>+</del>
Del. quantity cm3/1000 strokes	:	32.5	‡
cm3/1000 strokes Tolerance			
cm3/1000 strokes Tolerance cm3/1000 strokes	:	32.5 1.0	CHECKING LOAD-DEPENDENT
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance			CHECKING LOAD-DEPENDENT START OF DELIVERY
cm3/1000 strokes Tolerance cm3/1000 strokes		1.0 2.3	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		1.0	START OF DELIVERY  DELIVERY DIFFERENCE
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt Rated speed rpm		1.0 2.3	START OF DELIVERY  DELIVERY DIFFERENCE
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	•	1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 2.0
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 2.0  Check tolerance
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 2.0  Check tolerance  cm3/1000s. : 2.0  Shutoff solenoid
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 2.0  Check tolerance  cm3/1000s. : 2.0
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1.0 2.3 12 600 31.9 1.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000S. : 2.0 Shutoff solenoid Volt : 12
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 2.0  Check tolerance  cm3/1000s. : 2.0  Shutoff solenoid
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	:	1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000s strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance		1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 2.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1

Shutoff solenoid Volt

12

DELIVERY DIFFERENCE

1250 Rated speed rpm

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

Volt 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

Tolerance mm 0.2

Check

tolerance mm 0.3

Shutoff solenoid

12 Volt

START TRANSITION

310 Rated speed rpm

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes 10.0

Shutoff solenoid

Volt 12 :

210 Rated speed rom

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

: +0,1 Tolerance mm

: 5,4 Dimension KF mm

: +-0,2 Tolerance mm

Dimension MS mm

: 1,3

Tolerance mm : +-0,2

**MICROSWITCH** 

SET

: 0,8...3,0 mm

: 14,7..15,5

J12

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 30,3..34,3

Control lever

: 67,1..79,9 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Part no. : 0 460 484 114 Pump designation : VE4/8F2300R598-4

Customer—spec. information Customer : RENAULT Motor : F8Q - 620 Power KW : 45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.7
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 31.5
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 2.5
Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 3.0
Tolerance
cm3/1000 strokes : 2.0

Shutoff solenoid
Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450 Del. quantity cm3/1000 strokes : 24.

cm3/1000 strokes : 24.5 Tolerance

loterance

cm3/1000 strokes : 3.0 Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

Shutoff solenoid Volt	:	12	‡	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
			‡	Rated speed rpm	:	2000
LOAD DEDENDENT OF	ADT	OF DELTHERY	†	Supply pomp		7 7
LOAD-DEPENDENT ST SETTING	AKI	OF DELIVERY	†	pressure bar Tolerance hPa	:	7.7 0.3
SELLTING			I	Shutoff solenoid	•	0.5
DELIVERY DIFFEREN	lCE		$\perp$	Volt	:	12
			1	***************************************	•	
Rated speed rpm	:	1250	+	Rated speed rpm	:	600
Del. quantity			+	Supply pomp		
cm3/1000 strokes	:	-7.0	+	pressure bar	:	3.5
Tolerance		4.0	+	Tolerance hPa	:	0.3
cm3/1000 strokes	:	1.0	†	Shutoff solenoid		10
Shutoff solenoid Volt		12	†	Volt	:	12
VOLL	•	12	I	OVERFLOW QUANTITY		
PRESSURE DIFFEREN	ICE		1	OVERTEOW GOARTEST		
THEODORE DEFICE			1	Rated speed rpm	:	2250
Rated speed rpm	:	1250	1	Overflow quantity		
Del. quantity			+	ccm/10s	:	97.2
cm3/1000 strokes	:	-0.2	+	Tolerance		
Tolerance			t	ccm/10s	:	41.6
cm3/1000 strokes	:	0.1	+	<b>A</b> I I . I		
Shutoff solenoid		12	†	Check tolerance	_	14 1
Volt	:	12	†	ccm/10s Shutoff solenoid	:	41.6
TIMING-DEVICE TRA	VEL	DIFFEDENCE	I	Volt		12
ITHING PEATOR INV	VLL	DITTENENCE	I	VOCC	•	, ,
Rated speed rpm	:	1250	1	Rated speed rpm	:	600
Del. quantity	-		+	Overflow quantity		
cm3/1000 strokes	:	-0.7	+	ccm/10s	:	63.8
Tolerance			+	Tolerance		
cm3/1000 strokes	:	0.1	+	ccm/10s	:	22.2
Shutoff solenoid		42	†	Charl dalamana		
Volt	:	12	†	Check tolerance ccm/10s		22.2
			I	Shutoff solenoid	•	22.2
INJECTION-PUMP TE	ST :	SPECIFICATIONS	$\downarrow$	Volt	•	12
11000110111011111	•	57 2521 15711 25115	1	7077	•	
TIMING DEVICE CHA	RAÇ	TERISTIC	1	DELIVERY AND BREA	KAWA	AY CHARACTERISTIC
Rated speed rpm	:	2000	+	Rated speed rpm	:	2450
			+	Del. quantity		
SV travel mm	:	6.3	+	cm3/1000 strokes	:	24.5
Tolerance mm	:	0.4	†	Tolerance		7.0
Check		0.6	Ť	cm3/1000 strokes Check tolerance	:	3.0
tolerance mm Shutoff solenoid	•	0.0	I	cm3/1000s.	•	4.0
Volt	:	12	1	Shutoff solenoid	•	4.0
VOCE	•	,,,	1	Volt	:	12
Rated speed rpm	:	600	+			-
, ,			+	Rated speed rpm	:	2650
SV travel mm	:	1.2	+	Del. quantity		
Tolerance mm	:	0.4	†	cm3/1000 strokes	:	9.5
Check		0.4	+	Check tolerance		5.0
tolerance mm Shutoff solenoid	:	0.6	Ī	cm3/1000S. Shutoff solenoid	•	5.0
Volt	•	12	I	Volt	•	12
#UCC	•	•	;		•	• •

			+
Rated speed rpm	:	2950	+
Del. quantity	_	2.5	ELECTR CHUTOEF
cm3/1000 strokes Tolerance	•	2.5	+ ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP
cm3/1000 strokes	•	2.5	T CONTINUE ELECTIVITY IDEE STOP
Check tolerance	•	2.5	Rated speed rpm : 410
cm3/1000s.	:	2.5	+ Del. quantity
Shutoff solenoid			+ cm3/1000 strokes : 1.5
Volt	:	12	+ Tolerance
Rated speed rpm		2250	+ cm3/1000 strokes : 1.5 + Check tolerance
Del. quantity	•	2230	+ cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+ Spread
Tolerance			+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.0	+
Check tolerance		2.7	+ FULL-LOAD STOP CONTROL LEVER
cm3/1000s.	:	2.3	† Dated around man /10
Shutoff solenoid Volt		12	+ Rated speed rpm : 410 + Del. quantity
VOCC	•	12	cm3/1000 strokes : 1.5
Rated speed rpm	:	1625	+ Tolerance
Del. quantity			+ cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+ Spread
Tolerance		4 5	+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.5	+ Check tolerance + cm3/1000s. : 1.5
Check tolerance cm3/1000s.		2.3	Spread
Shutoff solenoid	•	2.5	+ cm3/1000 strokes : 5.0
Volt	:	12	+
			<del> </del>
			· · · · · · · · · · · · · · · · · · ·
Rated speed rpm	:	2000	+
Del. quantity			‡
Del. quantity cm3/1000 strokes		2000 32.5	<u> </u>
Del. quantity cm3/1000 strokes Tolerance	:	32.5	CHECKING LOAD-DEPENDENT
Del. quantity cm3/1000 strokes	:		CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5	i i
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	32.5 1.0 2.3	i i
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5 1.0	START OF DELIVERY  DELIVERY DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : :	32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	32.5 1.0 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance cm3/1000 strokes : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance

12 Volt

DELIVERY DIFFERENCE

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

3.0 cm3/1000 strokes :

Check tolerance

cm3/1000S. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

1250 Rated speed rpm

0.2 Tolerance mm

Check

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

310 Rated speed rpm

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

210 Rated speed rpm

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

15.0 cm3/1000 strokes

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 3,3 Dimension K mm

Tolerance mm : 0,1

Dimension KF mm : 5,4

: +-0,2 Tolerance mm

Dimension MS mm : 1,3

Tolerance mm : +-0,2

**MICROSWITCH** 

SET

: 0,8...3,0

: 14,7..15,5

J16

CONTROL LEVER POSITION

SET

Control lever

: 30,3..34,3 position YA mm

Control lever

position YB mm : 67,1..79,9

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Part no. : 0 460 484 115 Pump designation : VE4/8F2300R598-5

Customer-spec. information
Customer : RENAULT
Motor : F8Q - 620 CA
Power KW : 45.0

# TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00
x length mm : 450

REMARKS

J17

INJECTION PUMP SETTING VALUES

# TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.7
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.5
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 31.5
Tolerance
cm3/1000 strokes : 0.5

cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.5 Shutoff solenoid Volt : 12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 3.0
Tolerance
cm3/1000 strokes : 2.0
Shutoff solenoid
Volt : 12

# FULL-LOAD SPEED REGULATION

Del. quantity cm3/1000 strokes : 24.5 Tolerance

2450

cm3/1000 strokes : 3.0 Shutoff solenoid Volt : 12

# STARTING FUEL DELIVERY

Rated speed rpm

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 55.0
Tolerance
cm3/1000 strokes : 15.0

Shutoff solenoid Volt	:	12	† 1	SUPPLY PUMP PRESS	URE	CHARACTER	ISTIC
			+	Rated speed rpm Supply pomp	:	2000	
LOAD-DEPENDENT ST	ART	OF DELIVERY	1	pressure bar	•	7.7	
SETTING	,,,,,	Or DECIVERY	1	Tolerance hPa	:	0.3	
02111110			1	Shutoff solenoid	•	0.5	
DELIVERY DIFFEREN	ICE		+	Volt	:	12	
Rated speed rpm	:	1250	Ī	Rated speed rpm	:	600	
Del. quantity	•	1230	I	Supply pomp	•	000	
cm3/1000 strokes		-7.0	1	pressure bar		3.5	
Tolerance	•	7.0	T	Tolerance hPa	:	0.3	
cm3/1000 strokes		1.0	T	Shutoff solenoid	•	0.5	
	•	1.0	Ť			10	
Shutoff solenoid		43	†	Volt	:	12	
Volt	:	12	†				
			†	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	CE		†				
			+	Rated speed rpm	:	2250	
Rated speed rpm	:	1250	+	Overflow quantity			
Del. quantity			+	ccm/10s	:	97.2	
cm3/1000 strokes	:	-0.2	+	Tolerance			
Tolerance			+	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	1				
Shutoff solenoid			1	Check tolerance			
Volt	•	12	1	ccm/10s	•	41.6	
1011	•	• •	1	Shutoff solenoid	•		
TIMING-DEVICE TRA	VEI	DIFFERENCE	1	Volt	•	12	
THE DEVICE THA	V L L	DITTENENCE	1	1011	•	, _	
Rated speed rpm	:	1250	I	Rated speed rpm	:	600	
Del. quantity	•	1230	T	Overflow quantity	-	000	
		-0.7	T	ccm/10s		63.8	
cm3/1000 strokes	:	<b>~0.</b> 7	Ť		•	03.6	
Tolerance		0.4	†	Tolerance		22.2	
cm3/1000 strokes	:	0.1	†	ccm/10s	:	22.2	
Shutoff solenoid		40	†	at I i I			
Volt	:	12	†	Check tolerance		22.2	
			+	ccm/10s	:	22.2	
			<del>-</del> +	Shutoff solenoid			
INJECTION-PUMP TE	ST S	SPECIFICATIONS	†	Volt	:	12	
TIMING DEVICE CHA	RAC1	TERISTIC	‡	DELIVERY AND BREA	KAWA	Y CHARACT	ERISTIC
			+			0.455	
Rated speed rpm	:	2000	+	Rated speed rpm	:	2450	
			+	Del. quantity		_	
SV travel mm	:	6.3	+	cm3/1000 strokes	:	24.5	
Tolerance mm	:	0.4	+	Tolerance			
Check			+	cm3/1000 strokes	:	3.0	
tolerance mm	:	0.6	+	Check tolerance			
Shutoff solenoid			+	cm3/1000S.	:	4.0	
Volt	:	12	+	Shutoff solenoid			
			1	Volt	:	12	
Rated speed rpm	:	600	1	•			
	-		1	Rated speed rpm	:	2650	
SV travel mm	•	1.2	1	Del. quantity	-		
Tolerance mm	•	0.4	1	cm3/1000 strokes	•	9.5	
Check	•	<b>01</b> T	1	Check tolerance	•		
tolerance mm	•	0.6	I	cm3/1000s.		5.0	
Shutoff solenoid	•	0.0	$\mathbf{I}$	Shutoff solenoid	•	٥.0	
Volt		12	I	Volt		12	
VULL	•	14	T	VOLL	•	12	

Rated speed rpm	:	2950	‡	
Del. quantity	•		1	
cm3/1000 strokes	:	2.5	+	ELECTR. SHUTOFF
Tolerance		2.5	+	CONTROL LEVER, IDLE STOP
cm3/1000 strokes	:	2.5	†	Dated around man . /10
Check tolerance cm3/1000s.		2.5	1	Rated speed rpm : 410 Del. quantity
Shutoff solenoid	•	2.7	$\mathbf{I}$	cm3/1000 strokes : 1.5
Volt	:	12	1	Tolerance
	-		1	cm3/1000 strokes : 1.5
Rated speed rpm	:	2250	+	Check tolerance
Del. quantity			+	cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+	Spread
Tolerance		4.0	†	cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.0	†	FILL LOAD STOD CONTROL LEVED
Check tolerance cm3/1000S.		2.3	†	FULL-LOAD STOP CONTROL LEVER
Shutoff solenoid	•	د. ے	I	Rated speed rpm : 410
Volt	:	12	I	Del. quantity
1016	•	* •	1	cm3/1000 strokes : 1.5
Rated speed rpm	:	1625	1	Tolerance
Del. quantity	-	_	+	cm3/1000 strokes : 1.5
cm3/1000 strokes	:	31.0	+	Spread
Tolerance			+	cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.5	+	Check tolerance
Check tolerance			†	cm3/1000s. : 1.5
cm3/1000s.	:	2.3	†	Spread
Shutoff solenoid		12	†	cm3/1000 strokes : 5.0
Volt	:	16	1	
Rated speed rpm	:	2000	I	
Del. quantity	•	2000	1	
cm3/1000 strokes	:	32.5	1	
Tolerance			+	
cm3/1000 strokes	:	1.0	+	CHECKING LOAD-DEPENDENT
Check tolerance			+	START OF DELIVERY
cm3/1000s.	:	2.3	+	
Shutoff solenoid		40	†	DELIVERY DIFFERENCE
Volt	:	12	†	Dated aread are : 4250
Datad apand		600	†	Rated speed rpm : 1250
Rated speed rpm Del. quantity	:	900	Ī	Del. quantity cm3/1000 strokes : -9.5
cm3/1000 strokes	:	31.9	I	Tolerance
Tolerance	•	51.7	1	cm3/1000 strokes : 3.0
cm3/1000 strokes	:	1.5	1	Check tolerance
Check tolerance	•		1	cm3/1000s. : 3.0
cm3/1000S.	:	2.3	+	Shutoff solenoid
Shutoff solenoid			+	Volt : 12
Volt	:	12	+	
		4055	+	TIMING-DEVICE TRAVEL DIFFERENCE
Rated speed rpm	:	1250	†	Detect award and A000
Del. quantity		71 E	†	Rated speed rpm : 1250
cm3/1000 strokes	:	31.5	†	Del. quantity cm3/1000 strokes : -0.7
Tolerance cm3/1000 strokes		0.5	Ī	Tolerance
Check tolerance	•	0.7	I	cm3/1000 strokes : 0.1
cm3/1000s.	:	2.3	I	Check tolerance
Shutoff solenoid	•		ļ.	cm3/1000s. : 0.1
Volt	:	12	+	• •
•			•	

12 Volt

DELIVERY DIFFERENCE

1250 Rated speed rpm

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250 Tolerance mm

Check

0.2

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm 310

Del. quantity

35.0 cm3/1000 strokes :

Tolerance

10.0 cm3/1000 strokes :

Shutoff solenoid

Volt 12

210 Rated speed rpm

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

15.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

Tolerance mm : +-0,1: 5,4 Dimension KF mm

: +-0,2 Tolerance mm

: 1,3 Dimension MS mm

: +-0,2

Tolerance mm

**MICROSWITCH** 

SET

: 0,8...3,0 mm

: 14,7..15,5

J20

CONTROL LEVER POSITION

SET

Control lever

: 30,3..34,3 position YA mm

Control lever

position YB mm : 67,1..79,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 : ISO 4113 Test oil

: 0 460 484 116 Part no. Pump designation : VE4/8F2300R598-J

Customer-spec. information : RENAULT Customer

: F8Q - 620 DDS Motor

Power KW 45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.7 Setting mm : Tolerance mm : 0.2 Shutoff solenoid 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 0.3 Tolerance hPa : Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 31.5 Tolerance cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2450

Del. quantity

cm3/1000 strokes : 24.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

Shutoff solenoid			+			
Volt	:	12	+	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
			‡	Rated speed rpm	:	2000
LOAD-DEPENDENT ST	·ΔDT	OF DELIVERY	I	Supply pomp pressure bar		7.7
SETTING	AIC I	OF DELIVERY	I	Tolerance hPa	•	0.3
SELLTING			T	Shutoff solenoid	•	0.5
DELIVERY DIFFEREN	ICE		Ŧ	Volt	:	12
Rated speed rpm		1250	Ī	Rated speed rpm	:	600
Del. quantity	•	1250	Ţ	Supply pomp	•	000
cm3/1000 strokes	:	-7.0	1	pressure bar	:	3.5
Tolerance			1	Tolerance hPa	:	0.3
cm3/1000 strokes	:	1.0	+	Shutoff solenoid		
Shutoff solenoid			1	Volt	:	12
Volt	:	12	1			
			+	OVERFLOW QUANTITY		
PRESSURE DIFFEREN	CE		+			
			+		:	2250
Rated speed rpm	:	1250	1	Overflow quantity		
Del. quartity			1	ccm/10s	:	97.2
cm3/1000 strokes	:	-0.2	+	Tolerance		
Tolerance			+	ccm/10s	:	41.6
cm3/1000 strokes	:	0.1	+			
Shutoff solenoid			1	Check tolerance		
Volt	:	12	+	ccm/10s	:	41.6
			+	Shutoff solenoid		
TIMING-DEVICE TRA	VEL	DIFFERENCE	+	Volt	:	12
Rated speed rpm	:	1250	1	Rated speed rpm	:	600
Del. quantity	•		1	Overflow quantity		
cm3/1000 strokes	:	-0.7	1	ccm/10s	:	63.8
Tolerance	•	<b></b>	1	Tolerance	•	
cm3/1000 strokes	•	0.1	1	ccm/10s	:	22.2
Shutoff solenoid	•		1	· · · · · · · · · · · · · · · · · · ·		· <del>-</del>
Volt	:	12	1	Check tolerance		
	·	, -	1	ccm/10s	:	22.2
		<del></del>	↓	Shutoff solenoid		
INJECTION-PUMP TE	ST :	SPECIFICATIONS	1	Volt	:	12
2,1020,120,170,110	•		1			-
TIMING DEVICE CHA	RAC	TERISTIC	1	DELIVERY AND BREA	KAWA	Y CHARACTERISTIC
Rated speed rpm	:	2000	1	Rated speed rpm	:	2450
			1	Del. quantity		
SV travel mm	:	6.3	+	cm3/1000 strokes	:	24.5
Tolerance mm	:	0.4	1	Tolerance		
Check			1	cm3/1000 strokes	:	3.0
tolerance mm	:	0.6	+	Check tolerance		
Shutoff solenoid			+	cm3/1000S.	:	4.0
Volt	:	12	+	Shutoff solenoid		
			+	Volt	:	12
Rated speed rpm	:	600	+			
, , , , , ,			+	Rated speed rpm	:	2650
SV travel mm	:	1.2	+	Del. quantity		
Tolerance mm	:	0.4	+	cm3/1000 strokes	:	9.5
Check			+	Check tolerance		
tolerance mm	:	0.6	+	cm3/1000S.	:	5.0
Shutoff solenoid			+	Shutoff solenoid		
Volt	:	12	+	Volt	:	12
			•			

<b>5</b>		2252	†
Rated speed rpm Del. quantity	:	2950	İ
cm3/1000 strokes	:	2.5	ELECTR. SHUTOFF
Toterance		_	CONTROL LEVER, IDLE STOP
cm3/1000 strokes	:	2.5	† Data Larra Larra (42)
Check tolerance cm3/1000s.		2.5	+ Rated speed rpm : 410 + Del. quantity
Shutoff solenoid	•	2.5	cm3/1000 strokes : 1.5
Volt	:	12	+ Tolerance
<b>5</b>		2252	+ cm3/1000 strokes : 1.5
Rated speed rpm Del. quantity	:	2250	+ Check tolerance + cm3/1000s. : 1.5
cm3/1000 strokes	:	32.1	+ cm3/1000s. : 1.5 + Spread
Tolerance	•	J	+ cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.0	+
Check tolerance		2.7	+ FULL-LOAD STOP CONTROL LEVER
cm3/1000s. Shutoff solenoid	:	2.3	Rated speed rpm : 410
Volt	:	12	+ Del. quantity
			+ cm3/1000 strokes : 1.5
Rated speed rpm	:	1625	+ Tolerance
Del. quantity cm3/1000 strokes		31.0	+ cm3/1000 strokes : 1.5 + Spread
Tolerance	•	31.0	- cm3/1000 strokes : 5.0
cm3/1000 strokes	:	1.5	+ Check tolerance
Check tolerance			+ cm3/1000s. : 1.5
cm3/1000s.	:	2.3	+ Spread + cm3/1000 strokes : 5.0
Shutoff solenoid Volt	•	12	+ cm3/1000 strokes : 5.0
1011	•	,,_	<del> </del>
Rated speed rpm	:	2000	†
Del. quantity			‡
Del. quantity cm3/1000 strokes		2000 32.5	<u> </u>
Del. quantity cm3/1000 strokes Tolerance			CHECKING LOAD-DEPENDENT
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	32.5 1.0	CHECKING LOAD-DEPENDENT START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5	START OF DELIVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	32.5 1.0 2.3	( = = = = = = = = = = = = = = = = = = =
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	32.5 1.0	START OF DELIVERY  DELIVERY DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	32.5 1.0 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s : 3.0
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5	START OF DELIVERY  DELIVERY DIFFERENCE  Rated speed rpm : 1250  Del. quantity  cm3/1000 strokes : -9.5  Tolerance  cm3/1000 strokes : 3.0  Check tolerance  cm3/1000s. : 3.0  Shutoff solenoid
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	32.5 1.0 2.3 12 600 31.9 1.5 2.3	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1 Check tolerance
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		32.5 1.0 2.3 12 600 31.9 1.5 2.3 12 1250 31.5 0.5	DELIVERY DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -9.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -0.7 Tolerance cm3/1000 strokes : 0.1

12 Volt

DELIVERY DIFFERENCE

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

3.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

0.2 Tolerance mm

Check

0.3 tolerance mm :

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm 310

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

Rated speed rpm 210

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

: +0,1 Tolerance mm

Dimension KF mm : 5,4

: +-0,2 Tolerance mm

: 1,3 Dimension MS mm

: +-0,2

Tolerance mm

MICROSWITCH

SET

: 0,8..3,0 מעח

: 14,7..15,5

J24

CONTROL LEVER POSITION

Control lever

: 30,3..34,3 position YA mm

Control lever

: 67,1..79,9 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Part no. : 0 460 484 117 Pump designation : VE4/8F2300R598-7

Customer-spec. information Customer : RENAULT

Motor : F8Q - 620 CA DDS

Power KW : 45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.7 Tolerance mm : 0.2 Shutoff solenoid Volt : 12

Volt :

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.5 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2.5

Rated speed rpm : 1250

Del. quantity cm3/1000 strokes : 31.5

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity

cm3/1000 strokes : 24.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

Shutoff solenoid Volt	:	12	‡	SUPPLY PUMP PRESS	SURE	CHARACTERISTIC
			‡	Rated speed rpm	:	2000
LOAD-DEPENDENT ST	ADT	OF DELTHERY	T	Supply pomp		7.7
	MK I	OF DECIMENT	T	pressure bar	•	
SETTING			†	Tolerance hPa	:	0.3
			+	Shutoff solenoid		
DELIVERY DIFFEREN	ICE		+	Volt	:	12
			+			
Rated speed rpm	:	1250	+	Rated speed rpm	:	600
Del. quantity			1	Supply pomp		
cm3/1000 strokes	:	-7.0	1	pressure bar	•	3.5
Tolerance	•		1	Tolerance hPa	•	0.3
cm3/1000 strokes		1.0	1	Shutoff solenoid	•	0.0
Shutoff solenoid	•	1.0	1	Volt		12
Volt		12	Ţ	VOCE	•	12
VOCE	•	12	Ť	OVEREI OU OUANTZTV	,	
DOFFICIENT ATTENDED			†	OVERFLOW QUANTITY		
PRESSURE DIFFEREN	ILE		†	- · · ·		2252
		4050	+		:	2250
Rated speed rpm	:	1250	+	Overflow quantity	,	
Del. quantity			+	ccm/10s	:	97.2
cm3/1000 strokes	:	-0.2	+	Tolerance		
Tolerance			+	ccm/10s	:	41.6
cm3/1000 strokes	:	0.1	+			
Shutoff solenoid			+	Check tolerance		
Volt	:	12	1	ccm/10s	:	41.6
	•		1	Shutoff solenoid	•	
TIMING-DEVICE TRA	VEL	DIFFERENCE	+	Volt	:	12
Poted opend spm		1250	T	Dated speed spm		600
Rated speed rpm	:	1230	T	Rated speed rpm	:	000
Del. quantity		0.7	Ť	Overflow quantity	_	/7.0
cm3/1000 strokes	:	-0.7	†	ccm/10s	:	63.8
Tolerance			+	Tolerance		
cm3/1000 strokes	:	0.1	+	ccm/10s	:	22.2
Shutoff solenoid			†			
Volt	:	12	+	Check tolerance		
			+	ccm/10s	:	22.2
			+	Shutoff solenoid		
INJECTION-PUMP TE	ST :	SPECIFICATIONS	+	Volt	:	12
			+			
TIMING DEVICE CHA	RAC	TERISTIC	‡	DELIVERY AND BREA	KAWA	AY CHARACTERISTIC
Rated speed rpm	:	2000	1	Rated speed rpm	:	2450
upoud ipili	•		1	Del. quantity	•	
SV travel mm		6.3	1	cm3/1000 strokes	:	24.5
Tolerance mm	•	0.4	$\mathbf{I}$	Tolerance	•	LT.J
Check	•	0.4	Ι	cm3/1000 strokes	:	3.0
		0.4	T	Check tolerance	•	5.0
tolerance mm Shutoff solenoid	÷	0.6	Ť	cm3/1000S.		4.0
		10	Ţ		•	4.0
Volt	:	12	†	Shutoff solenoid		10
6-1-1		400	†	Volt	:	12
Rated speed rpm	:	600	†	<b>6</b> 1		2/50
		4.6	†	Rated speed rpm	:	2650
SV travel mm	:	1.2	+	Del. quantity		
Tolerance mm	:	0.4	+	cm3/1000 strokes	:	9.5
Check		_	+	Check tolerance		_ ,
tolerance mm	:	0.6	+	cm3/1000s.	:	5.0
Shutoff solenoid			+	Shutoff solenoid		
Volt	:	12	+	Volt	:	12
			•			

Rated speed rpm	:	2950	‡			
Del. quantity cm3/1000 strokes	:	2.5	+ ELECTR. SHUTOF	F		
Tolerance cm3/1000 strokes		2.5	CONTROL LEVER,		TOP	
Check tolerance	•		Rated speed rp		410	
cm3/1000s. Shutoff solenoid	:	2.5	+ Del. quantity + cm3/1000 strok		1.5	
Volt	:	12	Tolerance cm3/1000 strok		1.5	
Rated speed rpm	:	2250	+ Check tolerance			
Del. quantity cm3/1000 strokes	:	32.1	+ cm3/1000s. + Spread	:	1.5	
Tolerance cm3/1000 strokes	:	1.0	cm3/1000 strok	es :	5.0	
Check tolerance	·		FULL-LOAD STOP	CONTRO	L LEVER	
cm3/1000S. Shutoff solenoid	:	2.3	+ Rated speed rp		410	
Volt	:	12	+ Del. quantity + cm3/1000 strok		1.5	
Rated speed rpm Del. quantity	:	1625	Tolerance cm3/1000 stroke		1.5	
cm3/1000 strokes	:	31.0	+ Spread			
Tolerance cm3/1000 strokes	:	1.5	cm3/1000 stroke Check tolerance		5.0	
Check tolerance cm3/1000s.	:	2.3	+ cm3/1000s. + Spread	:	1.5	
Shutoff solenoid Volt	:	12	cm3/1000 stroke	es :	5.0	
			+			
Rated speed rpm Del. quantity			‡			
cm3/1000 strokes Tolerance	:	32.5	<u> </u>			
cm3/1000 strokes Check tolerance	:	1.0	CHECKING LOAD-		NT	
cm3/1000s.	:	2.3	+			
Shutoff solenoid Volt	:	12	† DELIVERY DIFFER	RENCE		
Rated speed rpm	:		Rated speed rpm	n :	1250	
Rated speed rpm Del. quantity cm3/1000 strokes	:	600	+ Del. quantity + cm3/1000 stroke		1250 -9.5	
Del. quantity cm3/1000 strokes Tolerance	:	600 31.9	+ Del. quantity + cm3/1000 stroke + Tolerance + cm3/1000 stroke	es :		
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	600 31.9 1.5	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s.	es :	-9.5	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	600 31.9	+ Del. quantity + cm3/1000 stroke + Tolerance + cm3/1000 stroke + Check tolerance	es :	-9.5 2.0	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	600 31.9 1.5	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt	es : es : e : id :	-9.5 2.0 2.0 12	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt	:	600 31.9 1.5 2.3	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt TIMING-DEVICE	es : es : e : id : FRAVEL !	-9.5 2.0 2.0 12 DIFFERENCE	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes	:	600 31.9 1.5 2.3	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt TIMING-DEVICE T	es : es : id : FRAVEL !	-9.5 2.0 2.0 12 DIFFERENCE	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity		600 31.9 1.5 2.3 12	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt TIMING-DEVICE T	es : es : id : FRAVEL !	-9.5 2.0 2.0 12 DIFFERENCE 1250 -0.7	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		600 31.9 1.5 2.3 12 1250 31.5 0.5	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt TIMING-DEVICE T Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke	es : es : fravel (	-9.5 2.0 2.0 12 DIFFERENCE	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		600 31.9 1.5 2.3 12 1250 31.5	Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff soleno Volt TIMING-DEVICE T Rated speed rpm Del. quantity cm3/1000 stroke Tolerance	es : es : fravel (	-9.5 2.0 2.0 12 DIFFERENCE 1250 -0.7	

12 Volt

DELIVERY DIFFERENCE

1250 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000S. 3.0

Shutoff solenoid

12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

0.2 Tolerance mm

Check

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

310 Rated speed rpm

Del. quantity

35.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

210 Rated speed rpm

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

: +-0,1 Tolerance mm

: 5,4 Dimension KF mm

Tolerance mm : +-0,2

Dimension MS mm : 1,3

Tolerance mm : +-0,2

MICROSWITCH

SET

: 0,8..3,0 : 14,7..15,5 mm

J28

CONTROL LEVER POSITION

Control lever

: 30,3..34,3 position YA mm

Control lever

position YB mm : 67,1..79,9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.04.96 Test oil : ISO 4113

: 0 460 494 357 Part no. Pump designation : VE4/9F2400R581

Customer-spec. information : RENAULT Customer : G8T - 752 Motor Power KW 59.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450 :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0 Tolerance mm : +-0,02

: C Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

2.5 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm

Setting hPa 6.2 Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 37.4 Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 450

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2600

Del. quantity cm3/1000 strokes :

23.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DEL	IVE	RY	İ	Tolerance mm Check	:	0.4
Rated speed rpm Del. quantity	:	100	<u> </u>	tolerance mm Shutoff solenoid	:	0.6
cm3/1000 strokes Tolerance	:	60.0	1	Volt	:	12
cm3/1000 strokes Shutoff solenoid	:	15.0	1	Rated speed rpm	:	750
Volt	:	12	-	SV travel mm Tolerance mm Check	:	1.0 1.2
LOAD-DEPENDENT ST	ΔDT	OF DELIVERY	<u> </u>	tolerance mm Shutoff solenoid	:	1.2
SETTING	AIX I	Or PEETVENT	<u>†</u>	Volt	:	12
DELIVERY DIFFEREN	CE			KSB/AFB Volt	:	12
Rated speed rpm Del. quantity	:	1250	$\frac{1}{1}$	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
cm3/1000 strokes Tolerance	:	-7.1	+	Rated speed rpm Supply pomp	:	2000
cm3/1000 strokes	:	1.0	+	pressure bar	:	8.2
Shutoff solenoid			+	Tolerance hPa	:	0.3
Volt	:	12	+	Shutoff solenoid		
			+	Volt	:	12
PRESSURE DIFFEREN	CE		+			
Rated speed rpm	:	1250	‡	Rated speed rpm Supply pomp	:	750
Del. quantity			+	pressure bar	:	4.7
cm3/1000 strokes	:	-0.2	+	Tolerance hPa	:	0.3
Tolerance			+	Shutoff solenoid		
cm3/1000 strokes Shutoff solenoid	:	0.1	Ì	Volt	:	12
Volt	:	12	1	OVERFLOW QUANTITY		
TIMING-DEVICE TRA	VEL	DIFFERENCE	+	Rated speed rpm Overflow quantity		2300
Rated speed rpm Del. quantity	:	1250	1	ccm/10s Tolerance	:	97.2
cm3/1000 strokes Tolerance	:	-0.8	İ	ccm/10s	:	41.6
cm3/1000 strokes	:	0.1	+	Check tolerance		10.7
Shutoff solenoid Volt	:	12	‡	ccm/10s Shutoff solenoid	:	41.6
			‡	Volt	:	12
INJECTION-PUMP TE	ST S	SPECIFICATIONS	+	Rated speed rpm Overflow quantity		750
TIMING DEVICE CHAP	RACT	TERISTIC	1	ccm/10s Tolerance	:	63.8
Rated speed rpm Tolerance mm	:	2000 0.4	+	ccm/10s	:	22.2
Check tolerance mm	:	0.6	‡	Check tolerance ccm/10s	:	22.2
Shutoff solenoid Volt	:	12	‡	Shutoff solenoid Volt	:	12
Rated speed rpm	:	1000	‡	DELIVERY AND BREAK	KAWA	Y CHARACTERISTIC
SV travel mm	:	1.0	Ţ	Rated speed rpm	:	2600

Del. quantity			<b>+</b>	Del. quantity			
cm3/1000 strokes	:	23.0	+	cm3/1000 strokes	:	36.5	
Tolerance cm3/1000 strokes	:	3.0	‡	Tolerance cm3/1000 strokes	:	1.5	
Check tolerance		, 0	+	Check tolerance		2.7	
cm3/1000s. Shutoff solenoid	:	4.0	‡	cm3/1000s. Shutoff solenoid		2.3	
Volt	:	12	+	Volt	:	12	
Rated speed rpm	:	2500	‡	Rated speed rpm	:	1250	
Del. quantity cm3/1000 strokes		35.5	+	Del. quantity cm3/1000 strokes		37.4	
Tolerance			Į	Tolerance			
cm3/1000 strokes Check tolerance	:	4.0	<u> </u>	cm3/1000 strokes Check tolerance	:	0.5	
cm3/1000s.	:	5.0	+	cm3/1000s.	:	2.3	
Shutoff solenoid Volt	•	12	‡	Shutoff solenoid Volt	:	12	
	•		+		•		
Rated speed rpm Del. quantity	:	2800	‡				
cm3/1000 strokes Tolerance	:	2.5	+	ELECTR. SHUTOFF CONTROL LEVER, ID	E	CTOD	
cm3/1000 strokes	:	2.5	Ŧ				
Check tolerance cm3/1000s.		2.5	<u> </u>	Rated speed rpm Del. quantity	:	385	
Shutoff solenoid	•		+	cm3/1000 strokes	:	1.5	
Volt	:	12	‡	Tolerance cm3/1000 strokes	:	1.5	
Rated speed rpm	:	2300	+	Check tolerance			
Del. quantity cm3/1000 strokes	:	41.0	‡	cm3/1000S. Spread	:	1.5	
Tolerance cm3/1000 strokes		1.0	+	cm3/1000 strokes	:	5.0	
Check tolerance	•		Į	FULL-LOAD STOP CO	NTR	OL LEVER	
cm3/1000s. Shutoff solenoid	:	2.3	1	Rated speed rpm		385	
Volt	:	12	+	Del. quantity			
Rated speed rpm	:	1000	‡	cm3/1000 strokes Tolerance	:	1.5	
Del. quantity			+	cm3/1000 strokes	:	1.5	
cm3/1000 strokes Tolerance			Į	Spread cm3/1000 strokes	:	5.0	
cm3/1000 strokes Check tolerance	:	1.5	1	Check tolerance cm3/1000s.	•	1.5	
cm3/1000S.	:	2.3	+	Spread	•		
Shutoff solenoid Volt	:	12	‡	cm3/1000 strokes	:	5.0	
Dated aread nam		2000	1				
Rated speed rpm Del. quantity			Ţ				
cm3/1000 strokes Tolerance	:	40.3	‡				
cm3/1000 strokes	:	1.0	+	CHECKING LOAD-DEP		ENT	
Check tolerance cm3/1000s.	:	2.3	‡	START OF DELIVERY			
Shutoff solenoid Volt		12	$\pm$	DELIVERY DIFFEREN	CE		
	•		Ŧ	Rated speed rpm	:	1250	
Rated speed rpm	:	750	+				

Del. quantity			
cm3/1000 strokes Tolerance	:	-9.4	
cm3/1000 strokes	:	2.0	
Check tolerance cm3/1000s.	:	2.0	
Shutoff solenoid			
Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm	:	1250	
Del. quantity			
cm3/1000 strokes Tolerance	:	-0.8	
cm3/1000 strokes	:	0.1	
Check tolerance cm3/1000s.	:	0.1	
Shutoff solenoid Volt		12	
-	•	12	
DELIVERY DIFFEREN	ICE		
Rated speed rpm	:	1250	
Del. quantity cm3/1000 strokes	:	5.0	
Tolerance cm3/1000 strokes	:	3.0	
Check tolerance	•		
cm3/1000s. Shutoff solenoid	:	3.0	
Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm	:	1250	
Tolerance mm	:	0.2	
Check tolerance mm	:	0.3	
Shutoff solenoid		12	
Volt	•	12	
EXHAUST-GAS RECIR	CULA	ATION	
	:	1250	
Rated speed rpm Del. quantity	•		
cm3/1000 strokes Tolerance	:	23.0	
cm3/1000 strokes	:	0.5	
Check tolerance cm3/1000s.	:	2.5	
Shutoff solenoid			
Volt	:	12	
START TRANSITION			
Rated speed rpm	:	350	
Del. quantity cm3/1000 strokes	•	30.0	
CIID/ 1000 SCI ORES	•	55.0	

Tolerance cm3/1000 strokes Shutoff solenoid Volt	: 15.0 : 12
Rated speed rpm Del. quantity	: 200
cm3/1000 strokes Tolerance	: 70.0
cm3/1000 strokes	: 25.0
Shutoff solenoid Volt	: 12
ASSEMBLY AND ADJUS	STMENT DIMENSIONS
Dimension K mm Tolerance mm Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm	: 3,7 : +-0,1 : 6,0 : +-0,2 : 0,8 : +-0,2
MICROSWITCH SET	
mm	: 0,83,0 : ARF 12,0
CONTROL LEVER POST	ITION

Control lever

position YA mm : 37,2..41,2

Control lever

position YB mm : 61,3..69,7

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.04.96 Edition Test oil : ISO 4113

: 0 460 494 358 Part no. Pump designation: VE4/9F2400R581-1

Customer-spec. information Customer : RENAULT : G8T - 752 CA Motor Power KW 59.0 :

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

**REMARKS** 

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,0 Tolerance mm : +-0,02

Outlet : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 2.5 Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 6.2 Tolerance hPa 0.3 :

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

0.5

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 37.4 Tolerance

cm3/1000 strokes :

Spread cm3/1000 strokes : 2.5

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

450 Rated speed rpm : Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

2600 Rated speed rpm

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIV	VERY	† Tolerance mm † Check	: 0.4
Rated speed rpm : Del. quantity	: 100	tolerance mm Shutoff solenoid	: 0.6
cm3/1000 strokes : Tolerance	: 60.0	Volt	: 12
cm3/1000 strokes : Shutoff solenoid	: 15.0	Rated speed rpm	: 750
Volt	: 12	SV travel mm Tolerance mm	: 1.0 : 1.2
		Check tolerance mm	: 1.2
LOAD-DEPENDENT STAF SETTING	RT OF DELIVERY	+ Shutoff solenoid + Volt	: 12
DELIVERY DIFFERENCE	E	KSB/AFB Volt	: 12
Rated speed rpm : Del. quantity	: 1250	SUPPLY PUMP PRESS	URE CHARACTERISTIC
cm3/1000 strokes : Tolerance	: -7.1	Rated speed rpm Supply pomp	: 2000
cm3/1000 strokes	: 1.0	+ pressure bar	: 8.2
Shutoff solenoid	. 12		: 0.3
Volt :	: 12	+ Shutoff solenoid + Volt	: 12
PRESSURE DIFFERENCE	=	+	. 12
		Rated speed rpm	: 750
	: 1250	+ Supply pomp	: 4.7
Del. quantity cm3/1000 strokes :	: -0.2	+ pressure bar + Tolerance hPa	: 4.7
Tolerance	0.2	+ Shutoff solenoid	. 0.0
cm3/1000 strokes :	: 0.1	+ Volt	: 12
Shutoff solenoid	45	+	
Volt :	: 12	+ OVERFLOW QUANTITY	
TIMING-DEVICE TRAVE	EL DIFFERENCE	Rated speed rpm Overflow quantity	
Rated speed rpm : Del. quantity	: 1250	ccm/10s Tolerance	: 97.2
cm3/1000 strokes : Tolerance	-0.8	ccm/10s	: 41.6
cm3/1000 strokes :	0.1	T Check tolerance	
Shutoff solenoid	40	+ ccm/10s	: 41.6
Volt :	12	+ Shutoff solenoid + Volt	: 12
INJECTION-PUMP TEST	SPECIFICATIONS	Rated speed rpm Overflow quantity	
TIMING DEVICE CHARA	ACTERISTIC	ccm/10s Tolerance	: 63.8
Rated speed rpm :	2000	+ ccm/10s	: 22.2
Tolerance mm :	0.4	+	
Check	0.6	+ Check tolerance + ccm/10s	: 22.2
tolerance mm : Shutoff solenoid	0.0	+ Shutoff solenoid	
Volt :	12	+ Volt	: 12
Rated speed rpm :	1000	DELIVERY AND BREAK	CAWAY CHARACTERISTIC
SV travel mm :	1.0	Rated speed rpm	: 2600

Del. quantity cm3/1000 strokes	:	23.0	‡	Del. quantity cm3/1000 strokes	:	36.5	
Tolerance cm3/1000 strokes Check tolerance	:	3.0	‡	Tolerance cm3/1000 strokes Check tolerance	:	1.5	
cm3/1000s. Shutoff solenoid	:	4.0	Ī	cm3/1000s. Shutoff solenoid	:	2.3	
Volt	;	12	Ì	Volt	:	12	
Rated speed rpm Del. quantity	:	2500	1	Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	35.5	<u> </u>	cm3/1000 strokes Tolerance	:	37.4	
cm3/1000 strokes Check tolerance	:	4.0	<u> </u>	cm3/1000 strokes Check tolerance	:	0.5	
cm3/1000s. Shutoff solenoid	:	5.0	1	cm3/1000s. Shutoff solenoid	:	2.3	
Volt	:	12	1	Volt	:	12	
Rated speed rpm Del. quantity	:	2800	Ţ	<del></del>			
cm3/1000 strokes Tolerance	:	2.5	1	ELECTR. SHUTOFF CONTROL LEVER, ID	lF:	STOP	
cm3/1000 strokes Check tolerance	:	2.5	1	Rated speed rpm		385	
cm3/1000s. Shutoff solenoid	:	2.5	Ŧ	Del. quantity cm3/1000 strokes		1.5	
Volt	:	12	Ŧ	Tolerance cm3/1000 strokes		1.5	
Rated speed rpm	:	2300	Ŧ	Check tolerance			
Del. quantity cm3/1000 strokes	:	41.0	‡	cm3/1000s. Spread	:	1.5	
Tolerance cm3/1000 strokes	:	1.0	‡	cm3/1000 strokes		5.0	
Check tolerance cm3/1000s.	:	2.3	‡	FULL-LOAD STOP CO			
Shutoff solenoid Volt	:	12	‡	Rated speed rpm Del. quantity		385	
Rated speed rpm	:	1000	‡	cm3/1000 strokes Tolerance	:	1.5	
Del. quantity cm3/1000 strokes	:	37.7	1	cm3/1000 strokes Spread	:	1.5	
Tolerance cm3/1000 strokes		1.5	‡	cm3/1000 strokes Check tolerance	:	5.0	
Check tolerance cm3/1000s.	•	2.3	1	cm3/1000s. Spread	:	1.5	
Shutoff solenoid Volt	:	12	‡	cm3/1000 strokes	:	5.0	
Rated speed rpm	:	2000	‡				
Del. quantity cm3/1000 strokes	:	40.3	‡				
Tolerance cm3/1000 strokes	:	1.0	‡	CHECKING LOAD-DEP		 Ent	
Check tolerance cm3/1000s.	:	2.3	‡	START OF DELIVERY			
Shutoff solenoid Volt	:	12	<u> </u>	DELIVERY DIFFEREN	CE		
Rated speed rpm	:	750	‡	Rated speed rpm	:	1250	
• • • •			•				

Del. quantity cm3/1000 strokes	:	-9.4	
Tolerance cm3/1000 strokes	:	2.0	
Check tolerance cm3/1000s.	:	2.0	
Shutoff solenoid Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	-0.8	
cm3/1000 strokes Check tolerance	:	0.1	
cm3/1000s. Shutoff solenoid	:	0.1	
Volt	:	12	
DELIVERY DIFFEREN	ICE		
Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	5.0	
cm3/1000 strokes Check tolerance	:	3.0	
cm3/1000s. Shutoff solenoid	;	3.0	
Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm Tolerance mm Check	:	1250 0.2	
tolerance mm Shutoff solenoid	:	0.3	
Volt	:	12	
EXHAUST-GAS RECIR	CULA	ATION	<del> </del>
Rated speed rpm	:	1250	
Del. quantity cm3/1000 strokes	:	23.0	
Tolerance cm3/1000 strokes	:	0.5	
Check tolerance cm3/1000s.	:	2.5	
Shutoff solenoid Volt	:	12	
START TRANSITION			
Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes	:	30.0	

Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12

Rated speed rpm : 200 Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : 25.0 Shutoff solenoid Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 0,8
Tolerance mm : +-0,2

MICROSWITCH SET

mm : 0,8...3,0 : ARF 12,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,2..41,2

Control lever

position YB mm : 61,3..69,7

End of test-specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.04.96 Edition Test oil : ISO 4113

Part no. : 0 460 404 086 Pump designation: VE4/10F2100L414 2

Customer-spec. information

Customer : VM

: 425 SLTRS Motor Power KW 77.0

#### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm 1000

Aneroid pressure

hPa 1000

2.2 Setting mm Tolerance mm 0.2

Shutoff solenoid

12 Volt

# SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

hPa 1000

4.5 Setting hPa Tolerance hPa 0.3

Shutoff solenoid Volt

12

#### FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm Aneroid pressure	:	1500
hPa	:	1000
Del. quantity cm3/1000 strokes	:	59.5
Tolerance cm3/1000 strokes	:	0.5
Spread cm3/1000 strokes	•	3.0
Check tolerance	•	
cm3/1000S. Shutoff solenoid	:	3.0

# FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 700 Del. quantity cm3/1000 strokes : 43.5 Tolerance cm3/1000 strokes 0.5 Shutoff solenoid Volt 12

Check tolerance cm3/1000s.

3.0

12

# IDLE SETTING

Volt

Rated speed rpm 450 Del. quantity

cm3/1000 strokes : 15.0 Tolerance

cm3/1000 strokes :

2.0 Shutoff solenoid

Volt

12

Spread cm3/1000 strokes	:	3.0	‡	Del. quantity cm3/100G strokes	:	-0.9
Check tolerance cm3/1000s.	:	3.0	‡	Tolerance cm3/1000 strokes	:	0.1
			+	Shutoff solenoid Volt	:	12
FULL-LOAD SPEED F	REGL	ULATION	+			
Rated speed rpm Pressure hPa	: :	2300 1000	‡	INJECTION-PUMP TE		
Del. quantity cm3/1000 strokes	:	43.0	‡	TIMING DEVICE CHA	ARAÇ	TERISTIC
Tolerance cm3/1000 strokes	:	3.0	‡	Rated speed rpm Aneroid pressure	:	1500
Shutoff solenoid Volt	•	12	+	hPa	:	1000
	•		+	SV travel mm	:	4.6
STARTING FUEL DEL	.IVE	ERY	‡	Tolerance mm Check	:	0.4
Rated speed rpm Del. quantity	:	100	‡	tolerance mm Shutoff solenoid	:	0.7
cm3/1000 strokes Tolerance	:	65.0	1	Volt	:	12
cm3/1000 strokes Shutoff solenoid	:	15.0	1	Rated speed rpm Aneroid pressure	:	700
Volt	:	12	Ŧ	hPa	:	1000
			Ŧ	SV travel mm	:	1.1
LOAD-DEPENDENT ST	ART	OF DELIVERY	‡	Tolerance mm Check	:	0.4
SETTING			‡	tolerance mm Shutoff solenoid	:	0.7
DELIVERY DIFFEREN	ICE		<u>†</u>	Volt	:	12
Rated speed rpm Pressure hPa	:	1500 1000	1	Rated speed rpm Aneroid pressure	:	2100
Del. quantity			Ŧ	hPa	:	1000
cm3/1000 strokes Tolerance	:	-25.0	Ī	SV travel mm	:	6.6
cm3/1000 strokes Shutoff solenoid	:	1.0	<u>†</u>	Tolerance mm Check	:	0.4
Volt	:	12	<u>†</u>	tolerance mm Shutoff solenoid	:	0.7
PRESSURE DIFFEREN	CE		+	Volt	:	12
Rated speed rpm	:	1500	Ŧ	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
Aneroid pressure	:	1000	Ŧ	Rated speed rpm	:	2100
Del. quantity cm3/1000 strokes	:	-0.2	‡	Aneroid pressure hPa	:	1000
Tolerance cm3/1000 strokes	:	0.1	‡	Supply pomp pressure bar	:	7.5
Shutoff solenoid Volt	:	12	‡	Tolerance hPa Shutoff solenoid	:	0.3
TIMING-DEVICE TRA	VFI		Ì	Volt	:	12
			+	Rated speed rpm	:	700
Rated speed rpm Aneroid pressure	:	1500	Ŧ	Aneroid pressure hPa	:	1000
hPa	:	1000	+			

Supply pomp pressure bar Tolerance hPa	: 3.6 : 0.3	‡	Aneroid pressure hPa	:	500
Shutoff solenoid Volt	: 12	‡	LDA/ HBA stroke mm Del. quantity	:	5.7
OVERFLOW QUANTITY	•	ł	cm3/1000 strokes Tolerance	:	57.0
Rated speed rpm Aneroid pressure	: 2100	Ī	cm3/1000 strokes Check tolerance	:	0.5
hPa Overflow quantity	: 1000	1	cm3/1000s. Shutoff solenoid	:	2.5
ccm/10s Tolerance	: 97.2	1	Volt	:	12
ccm/10s	: 41.6	1	Rated speed rpm Aneroid pressure	:	2100
Check tolerance ccm/10s	: 41.6	+	hPa Del. quantity	:	1000
Shutoff solenoid Volt	: 12	‡	cm3/1000 strokes Tolerance	:	58.5
Rated speed rpm	: 700	‡	cm3/1000 strokes Check tolerance	:	1.5
Aneroid pressure hPa	: 1000	‡	cm3/1000s. Shutoff solenoid	:	3.0
Overflow quantity ccm/10s	, : 63.8	‡	Volt	:	12
Tolerance ccm/10s	: 22.2	‡	Rated speed rpm Aneroid pressure	:	700
Check tolerance		‡	hPa Del. quantity	:	1000
ccm/10s Shutoff solenoid	: 22.2	+	cm3/1000 strokes Tolerance		60.5
Volt	: 12	‡	cm3/1000 strokes Check tolerance	:	1.5
DELIVERY AND BREAK	KAWAY CHARACTERISTIC	†	cm3/1000s. Shutoff solenoid	:	3.0
Rated speed rpm Aneroid pressure	: 2300	+	Volt	:	12
hPa Del. quantity	: 1000	‡	Rated speed rpm Aneroid pressure	:	1500
Tolerance	: 43.0	‡	hPa Del. quantity	:	1000
cm3/1000 strokes Check tolerance		‡	cm3/1000 strokes Tolerance		59.5
cm3/1000S. Shutoff solenoid	: 4.0	†	cm3/1000 strokes Check tolerance	:	0.5
Volt	: 12	‡	cm3/1000s. Shutoff solenoid	:	2.0
Rated speed rpm Aneroid pressure	: 2550	‡	Volt	:	12
hPa Del. quantity	: 1000	Ŧ	5, 5070, 00, 7055	<del></del> -	<del></del>
cm3/1000 strokes Check tolerance		+	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	БТОР
cm3/1000s. Shutoff solenoid	: 4.0	Ŧ	Rated speed rpm	:	450
Volt	: 12	+	Del. quantity cm3/1000 strokes	:	1.5
Rated speed rpm	: 700	Ţ	Tolerance cm3/1000 strokes	:	1.5

Check tolerance		•	Shutoff solenoid			
cm3/1000s.	: 1.5	+	Volt	:	12	
Spread		+				
cm3/1000 strokes	: 5.0	+	TIMING-DEVICE TR	AVEL	DIFFERENCE	
		+				
FULL-LOAD STOP CO	NTROL LEVER		Rated speed rpm		1500	
			Aneroid pressure			
Rated speed rpm	: 450	•	hPa	:	1000	
Del. quantity			Del. quantity			
cm3/1000 strokes	: 1.5		cm3/1000 strokes	:	-0.9	
Tolerance			Tolerance			
cm3/1000 strokes	: 1.5		cm3/1000 strokes	:	0.1	
Spread			Check tolerance			
cm3/1000 strokes	: 5.0		cm3/1000s.	:	0.1	
Check tolerance			Shutoff solenoid			
cm3/1000s.	: 1.5	+	Volt	:	12	
Spread		+				
cm3/1000 strokes	: 5.0	+	DELIVERY DIFFERE	NCE		
		+				
IDLE DELIVERY			Rated speed rpm		1500	
			Aneroid pressure			
Rated speed rpm	: 600	,	hPa	:	1000	
Del. quantity			Del. quantity			
cm3/1000 strokes	: 2.5		cm3/1000 strokes	:	5.0	
Tolerance			Tolerance		7.0	
cm3/1000 strokes	: 2.5		cm3/1000 strokes	:	3.0	
Check tolerance	2.5		Check tolerance		7.0	
cm3/1000s.	: 2.5		cm3/1000s.	:	3.0	
Shutoff solenoid	43	1	Shutoff solenoid		40	
Volt	: 12	†	Volt	:	12	
<b>8</b> -4	. 500	<b>†</b>	TIMING DEVICE TO	A 1 15-1	DIFFEDENCE	
Rated speed rpm	: 500	†	TIMING-DEVICE TR	AVEL	DIFFERENCE	
Del. quantity	: 5.0	†	Datad anaad ana		1500	
cm3/1000 strokes	: 5.0		Rated speed rpm		DUS	
Tolerance	: 2.5		Aneroid pressure		1000	
cm3/1000 strokes	: 2.5	•	hPa	•	0.3	
Check tolerance	: 3.0		Tolerance mm	•	0.5	
cm3/1000s.	: 5.0		Check		0.3	
Shutoff solenoid	: 12		tolerance mm Shutoff solenoid	:	0.5	
Volt	. 12	1			12	
		Ī	Volt	•	12	
		I.				
		1	EXHAUST-GAS RECI	RCUL#	ATION	
	<del></del>	\				
CHECKING LOAD-DEPE	ENDENT	1	Rated speed rpm	:	1000	
START OF DELIVERY			Aneroid pressure	•	•	
			hPa	:	1000	
DELIVERY DIFFERENCE	CE	UF:	Del. quantity			
=== = = = = = = = = = = = = = = = = = =			cm3/1000 strokes	:	43.5	
Rated speed rpm	: 1500	<del> </del>	Tolerance			
Aneroid pressure	-		cm3/1000 strokes	:	0.5	
hPa	: 1000		Check tolerance			
Del. quantity		+ (	cm3/1000s.	:	2.5	
cm3/1000 strokes	: -30.5		Shutoff solenoid			
Tolerance		+ 1	Volt	:	12	
cm3/1000 strokes	: 3.0	+				
Check tolerance		+ :	START TRANSITION			
7/40000						
cm3/1000s.	: 3.0	+	Rated speed rpm		550	

Del. quantity
cm3/1000 strokes : 42.0
Tolerance
cm3/1000 strokes : 10.0
Shutoff solenoid
Volt : 12

Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 60.0

Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid

Volt : 12

#### ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5.7
Dimension K mm : 3,3
Tolerance mm : +0,1
Dimension KF mm : 5,4
Tolerance mm : +0,2
Dimension MS mm : 0,8

Tolerance mm : +0,2
TLA travel mm : 12,7

MICROSWITCH SET

: ARF 12,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 38,8..40,8

Control lever

position YB mm : 38,6..48,4

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.04.96 Edition : ISO 4113 Test oil

: 0 460 494 437 Part no. Pump designation: VE4/9F2250R593-5

Customer-spec. information : RENAULT Customer : G8T - 760Motor 81.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature \*C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Aneroid pressure hPa

1000

2.8 Setting mm Tolerance mm 0.2

:

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

1000 hPa

Setting hPa 5.4 Tolerance hPa 0.3

Shutoff solenoid Volt

12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1250

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 58.7

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5 Check tolerance

cm3/1000s.

3.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000S. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 450 Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid	†
Volt : 12	INJECTION-PUMP TEST SPECIFICATIONS
FULL-LOAD SPEED REGULATION	TIMING DEVICE CHARACTERISTIC
Rated speed rpm : 2450 Pressure hPa : 1000	Rated speed rpm : 2150
Del. quantity cm3/1000 strokes : 30.0 Tolerance	+ Aneroid pressure + hPa : 1000 + Tolerance mm : 0.4
cm3/1000 strokes : 3.0 Shutoff solenoid	Check tolerance mm : 0.6
Volt : 12	Shutoff solenoid Volt : 12
SET GRADUATED STARTING DELIVERY	Rated speed rpm : 1000
CONTROL LEVER, IDLE STOP	Aneroid pressure hPa : 1000
Rated speed rpm : 100 Del. quantity	SV travel mm : 1.9
cm3/1000 strokes : 52.0	Tolerance mm : 0.4
Tolerance cm3/1000 strokes : 1.0 Shutoff solenoid	+ Check + tolerance mm : 0.6 + Shutoff solenoid
Volt : 12	Volt : 12
LOAD-DEPENDENT START OF DELIVERY	Rated speed rpm : 600 Aneroid pressure
SETTING	hPa : 1000
DELIVERY DIFFERENCE	SV travel mm : 2.7 + Tolerance mm : 1.2
Rated speed rpm : 1250 Del. quantity	Check tolerance mm : 1.2
cm3/1000 strokes : -8.5 Tolerance	Shutoff solenoid Volt : 12
cm3/1000 strokes : 1.0 Shutoff solenoid	KSB/AFB Volt : 12
Volt : 12	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
PRESSURE DIFFERENCE	+
Rated speed rpm : 1250	+ Rated speed rpm : 2150 + Aneroid pressure + hPa : 1000
Del. quantity cm3/1000 strokes : -0.2	+ Supply pomp
Tolerance cm3/1000 strokes : 0.1	+ pressure bar : 7.6 + Tolerance hPa : 0.3 + Shutoff solenoid
Shutoff solenoid Volt : 12	+ Volt : 12
TIMING-DEVICE TRAVEL DIFFERENCE	Rated speed rpm : 500 Aneroid pressure
Rated speed rpm : 1250	+ hPa : 1000
Del. quantity cm3/1000 strokes : -0.7	+ Supply pomp + pressure bar : 3.5 + Tolerance hPa : 0.3
Tolerance cm3/1000 strokes : 0.1	Shutoff solenoid Volt : 12
Shutoff sol <del>e</del> noid Volt : 12	+
	+ OVERFLOW QUANTITY

Rated speed rpm	:	500	7	Rated speed rpm	:	750
Overflow quantity ccm/10s Tolerance	:	63.8	Ī	- Aneroid pressure - hPa -	:	300
ccm/10s	:	22.2	+	- LDA/ - HBA stroke mm	:	7.3
Check tolerance ccm/10s	:	22.2	+	Del. quantity cm3/1000 strokes	:	50.0
Shutoff solenoid Volt	:	12	‡	Tolerance cm3/1000 strokes	:	0.5
Rated speed rpm Aneroid pressure	:	2150	Ī	Check tolerance cm3/1000s. Shutoff solenoid	:	2.3
hPa Overflow quantity	:	1000	1	Volt	:	12
ccm/10s Tolerance	:	97.2	+	Rated speed rpm Aneroid pressure	:	2150
ccm/10s	:	41.6	‡	hPa Del. quantity	:	1000
Check tolerance ccm/10s	:	41.6	+	cm3/1000 strokes Tolerance		56.7
Shutoff solenoid Volt	:	12	‡	cm3/1000 strokes Check tolerance	:	1.0
DELIVERY AND BREA	KAWA	AY CHARACTERISTI	c †	cm3/1000s. Shutoff solenoid Volt	:	2.3
Rated speed rpm Aneroid pressure	:	2450	Ī	Rated speed rpm	•	1000
hPa Del. quantity	:	1000	+	Aneroid pressure	:	1000
cm3/1000 strokes Tolerance	:	30.0	+	Del. quantity cm3/1000 strokes	:	59.6
cm3/1000 strokes Check tolerance	:	3.0	+	Tolerance cm3/1000 strokes	:	1.5
cm3/1000s. Shutoff solenoid	:	4.0	<b>†</b>	Check tolerance cm3/1000s.	:	2.3
Volt	:	12	‡	Shutoff solenoid Volt	:	12
Rated speed rpm Aneroid pressure hPa	:	2525 1000	Ī	Rated speed rpm Aneroid pressure	:	500
Del. quantity cm3/1000 strokes	•	8.0	Ī	hPa Del. quantity	:	1000
Check tolerance cm3/1000s.	:	5.0	+		:	57.2
Shutoff solenoid Volt	:	12	+	cm3/1000 strokes Check tolerance	:	1.5
Rated speed rpm	:	2600	+	cm3/1000S. Shutoff solenoid	:	2.3
Aneroid pressure hPa	:	1000	‡	Volt	:	12
Del. quantity cm3/1000 strokes	:	2.5	Ŧ	Rated speed rpm Aneroid pressure hPa	:	1250 1000
Tolerance cm3/1000 strokes Check tolerance	:	2.5	Ŧ	Del. quantity cm3/1000 strokes	•	58.7
cm3/1000s. Shutoff solenoid	:	2.5	Ī	Tolerance cm3/1000 strokes		0.5
Volt	:	12	+		-	

Check tolerance		+	Tolerance		
:m3/1000s.	: 2.3	+	cm3/1000 strokes	:	0.1
nutoff solenoid olt	: 12	‡	Check tolerance cm3/1000s.	:	0.1
		<u> </u>	Shutoff solenoid Volt	•	12
ECTD CHITOEE		<del></del> +			, _
ECTR. SHUTOFF NTROL LEVER, ID	DLE STOP	Ţ	DELIVERY DIFFEREN		
ated speed rpm	: 350	<u>†</u>	Rated speed rpm Del. quantity	:	1250
el. quantity		Ŧ	cm3/1000 strokes	:	5.0
cm3/1000 strokes Tolerance	: 1.5	‡	Tolerance cm3/1000 strokes	:	3.0
cm3/1000 strokes Check tolerance	: 1.5	†	Check tolerance cm3/1000s.		3.0
cm3/1000s.	: 1.5	Ţ	Shutoff solenoid	•	
Spread cm3/1000 strokes	: 5.0	‡	Volt	:	12
		+	TIMING-DEVICE TRA	VEL	DIFFERENC
FULL-LOAD STOP CO	ONTROL LEVER	1	Rated speed rpm	:	1250
Rated speed rpm	: 350	Ŧ	Tolerance mm	:	0.2
Del. quantity cm3/1000 strokes	: 1.5	‡	Check tolerance mm	:	0.3
Tolerance cm3/1000 strokes	: 1.5	<u>†</u>	Shutoff solenoid Volt		12
Spread		Ŧ	<b>1</b> 3(t)	•	16
cm3/1000 strokes Check tolerance	: 5.0	‡	START TRANSITION		
cm3/1000s.	: 1.5	+			700
Spread cm3/1000 strokes	: 5.0	‡	Rated speed rpm Del. quantity		300
		‡	cm3/1000 strokes Tolerance	:	37.0
		<del>-</del>	cm3/1000 strokes	:	10.0
		‡	Shutoff solenoid Volt	:	12
CUECKING LOAD DED	PENIDENT	+			
CHECKING LOAD-DEP START OF DELIVERY		Ŧ	Rated speed rpm Del. quantity	:	180
		<del></del>			
DELIVERY DIFFEREN	ICE	+	cm3/1000 strokes	:	54.0
		+			54.0 10.0
Rated speed rpm Del. quantity	: 1250	† †	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid		10.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1250 : -11.0	† † † †	cm3/1000 strokes Tolerance cm3/1000 strokes		
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1250 : -11.0	+ + + + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	:	10.0 12
Rated speed rpm Del. quantity Cm3/1000 strokes Tolerance Cm3/1000 strokes Check tolerance Cm3/1000s.	: 1250 : -11.0 : 2.5	+ + + + + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	:	10.0 12
Rated speed rpm Del. quantity cm3/1000 strokes Folerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid	: 1250 : -11.0 : 2.5	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU LDA/	:	10.0 12 ENT DIMENSI
Rated speed rpm Del. quantity cm3/1000 strokes Folerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Folt	: 1250 : -11.0 : 2.5 : 2.5 : 12	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm	: : STME	10.0 12 ENT DIMENSI 7.3
DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: 1250 : -11.0 : 2.5 : 2.5 : 12 VEL DIFFERENCE	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm Dimension K mm Tolerance mm	: STME	10.0 12 ENT DIMENS: 7.3 7.3
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: 1250 : -11.0 : 2.5 : 2.5 : 12 VEL DIFFERENCE : 1250	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  ASSEMBLY AND ADJU  LDA/ HBA stroke mm Dimension K mm	: : STME	10.0 12 ENT DIMENS: 7.3

# POTENTIOMETER SET

1. measurement
voltage Volt : 5,0
1. measurement
voltage Volt : 4,5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.02.96 Test oil : ISO 4113

Part no. : 0 460 494 354 Pump designation : VE4/9F2150R577

Customer-spec. information

Customer : NISSAN-MISA Motor : GX-3

Power KW : 53.0

# TEST BENCH REQUIREMENTS

# Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1200

Setting mm : 3.2
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

#### SUPPLY PUMP PRESSURE

Rated speed rpm : 1200

Setting hPa : 5.9
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

## FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 2150
Del. quantity
cm3/1000 strokes : 44.5
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 2.5
Shutoff solenoid
Volt : 12

#### IDLE SETTING

Rated speed rpm 375 Del. quantity cm3/1000 strokes : 8.5 Tolerance cm3/1000 strokes : 2.0 Shutoff solenoid 12 Volt Spread 2.5 cm3/1000 strokes : Check tolerance cm3/1000S. 3.0

# FULL-LOAD SPEED REGULATION

Rated speed rpm : 2500
Del. quantity
cm3/1000 strokes : 15.0
Tolerance
cm3/1000 strokes : 3.0
Shutoff solenoid
Volt : 12

# STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 60.0

Tolerance cm3/1000 strokes	:	15.0	‡	Rated speed rpm Overflow quantity		600	
Shutoff solenoid Volt		12	†	ccm/10s Tolerance	:	63.8	
<b>73</b> (1)	•	12	Ī	ccm/10s	:	22.2	
			‡	Check tolerance ccm/10s	:	22.2	
INJECTION-PUMP TE	ST S	SPECIFICATIONS	+	Shutoff solenoid Volt	:	12	
TIMING DEVICE CHA	RACT	TERISTIC .	Ī	DELIVERY AND BREA	KAW	AY CHARACT	TERISTIC
Rated speed rpm	:	2150	$\frac{1}{1}$	Rated speed rpm Del. quantity	:	2500	
SV travel mm	•	9.2	I	cm3/1000 strokes	•	15.0	
Tolerance mm	:	0.4	1	Tolerance	•	13.0	
Check	•		1	cm3/1000 strokes	:	3.0	
tolerance mm	:	0.7	1	Check tolerance	•		
Shutoff solenoid	-		<u> </u>	cm3/1000s.	:	4.5	
Volt	:	12	1	Shutoff solenoid			
			1	Volt	:	12	
Rated speed rpm	:	900	+				
			+	Rated speed rpm	:	2350	
SV travel mm	:	1.2	+	Del. quantity			
Tolerance mm Check	:	0.4	İ	cm3/1000 strokes Tolerance	:	33.3	
tolerance mm	:	0.7	+	cm3/1000 strokes	:	4.0	
Shutoff solenoid		43	†	Check tolerance			
Volt	:	12	†	cm3/1000s.	:	5.5	
SUPPLY PUMP PRESS	URE	CHARACTERISTI	c ‡	Shutoff solenoid Volt	:	12	
Rated speed rpm	:	2150	‡	Rated speed rpm	:	2700	
Supply pomp	•		1	Del. quantity	·		
pressure bar	:	8.7	1	cm3/1000 strokes	:	2.5	
Tolerance hPa	:	0.3	1	Tolerance			
Shutoff solenoid			+	cm3/1000 strokes	:	2.5	
Volt	:	12	+	Check tolerance			
			+	cm3/1000s.	:	2.5	
Rated speed rpm	:	900	+	Shutoff solenoid			
Supply pomp			+	Volt	:	12	
pressure bar	:	5.0	+				
Tolerance hPa	:	0.3	+	Rated speed rpm	:	900	
Shutoff solenoid Volt	:	12	‡	Del. quantity cm3/1000 strokes	:	42.2	
			+	Tolerance			
OVERFLOW QUANTITY			İ	cm3/1000 strokes Check tolerance	:	1.5	
	:	2150	Ŧ	cm3/1000s.	:	2.5	
Overflow quantity			+	Shutoff solenoid			
ccm/10s	:	97.2	†	Volt	:	12	
Tolerance		14.	†	<b> </b>		4200	
ccm/10s	:	41.6	†	Rated speed rpm	:	1200	
Charle dal animas			†	Del. quantity		/ <b>7</b> 0	
Check tolerance		41.6	†	cm3/1000 strokes	:	43.2	
ccm/10s	•	41.0	†	Tolerance cm3/1000 strokes		1.5	
Shutoff solenoid		12	<b>†</b>	Check tolerance	:	1.0	
Volt	•	16	Ţ	cm3/1000s.	:	2.5	

Shutoff solenoid			+ Spread			
Volt	•	12	+ cm3/1000 strokes	:	5.0	
	•		1	•		
Datad annual man		1800	IDLE DELIVERY			
Rated speed rpm	:	1000	T IDEE DELIVER!			
Del. quantity			<b>†</b>			
cm3/1000 strokes	:	44.3	+ Rated speed rpm	:	800	
Tolerance			→ Del. quantity			
cm3/1000 strokes		1.5	+ cm3/1000 strokes	•	2.5	
	•	1.5	+ Tolerance	•		
Check tolerance		2 5			2.5	
cm3/1000s.	:	2.5	+ cm3/1000 strokes	:	2.5	
Shutoff solenoid			+ Check tolerance			
Volt	:	12	+ cm3/1000s.	:	2.5	
			+ Shutoff solenoid			
Rated speed rpm	:	600	+ Volt	•	12	
	•	000	4000	•		
Del. quantity			Τ		F00	
cm3/1000 strokes	:	41.0	+ Rated speed rpm	:	500	
Tolerance			+ Del. quantity			
cm3/1000 strokes	:	1.5	+ cm3/1000 strokes	:	1.5	
Check tolerance	•		+ Tolerance	-		
cm3/1000s.		2.5	cm3/1000 strokes	•	1.5	
	•	د. ع		•	ر۱۰۰	
Shutoff solenoid			+ Check tolerance		. ~	
Volt	:	12	+ cm3/1000\$.	:	1.5	
			+ Shutoff solenoid			
Rated speed rpm	:	2150	+ Volt	:	12	
Del. quantity	•	21,50	1	•		
		44.5				
cm3/1000 strokes	:	44.7	†			
Tolerance		_	†			
cm3/1000 strokes	:	0.5	+			
Check tolerance			+			
cm3/1000s.		1.3	<u> </u>			
	•					
	:	1.5	EVHALIST_GAS DECT		ATTON	
Shutoff solenoid	:		EXHAUST-GAS RECI	RCULA	ATION	
	:	12	÷	RCULA	ATION	
Shutoff solenoid	:		Del. quantity			
Shutoff solenoid	:		÷		ATION 0.80	
Shutoff solenoid	:		Del. quantity			
Shutoff solenoid Volt	:		Del. quantity cm3/1000 strokes Tolerance	:	0.80	
Shutoff solenoid Volt  ELECTR. SHUTOFF	:	12	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:		
Shutoff solenoid Volt	: : 	12	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	0.80 0.02	
Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID	: : LE S	12 TOP	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	0.80	
ELECTR. SHUTOFF CONTROL LEVER, ID	: :  LE S	12	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: :	0.80 0.02	
ELECTR. SHUTOFF CONTROL LEVER, ID	: : LE S	12 TOP	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: :	0.80 0.02	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity	:	12 TOP 375	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: :	0.80 0.02	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes	:	12 TOP	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.  START TRANSITION	: :	0.80 0.02 0.10	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	12 TOP 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.  START TRANSITION Rated speed rpm	: :	0.80 0.02	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	12 TOP 375	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.  START TRANSITION  Rated speed rpm Del. quantity	: :	0.80 0.02 0.10	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	12 TOP 375 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes	: :	0.80 0.02 0.10	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	12 TOP 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.  START TRANSITION  Rated speed rpm Del. quantity	: :	0.80 0.02 0.10 400 45.0	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	12 TOP 375 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : :	0.80 0.02 0.10	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : :	12 TOP 375 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : :	12 TOP 375 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	12 TOP 375 1.5 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread	: : : : : : : : : : : : : : : : : : : :	12 TOP 375 1.5 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
ELECTR. SHUTOFF CONTROL LEVER, ID  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	12 TOP 375 1.5 1.5 5.0	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON	: : : : : : : : : : : : : : : : : : : :	12 TOP 375 1.5 1.5 5.0	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, IDI  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CONTRATED TO TO TO TO TO TO TO TO TO TO TO TO TO	: : : : :	12 TOP 375 1.5 1.5 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity cm3/1000 strokes	: : : : NTRO	12 TOP 375 1.5 1.5 5.0	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance Tolerance Cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12 270 70.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity cm3/1000 strokes	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12	
ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance Tolerance Cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12 270 70.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CON  Rated speed rpm Del. quantity cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Spread	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0	
Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, IDI Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CON Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Spread cm3/1000 strokes	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12 270 70.0	
ELECTR. SHUTOFF CONTROL LEVER, IDI  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spread cm3/1000 strokes  FULL-LOAD STOP CON  Rated speed rpm Del. quantity cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Tolerance cm3/1000 strokes  Spread	: : : : NTRO	12 TOP 375 1.5 1.5 5.0 L LEVER 375 1.5	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  START TRANSITION  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0	

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,2
Tolerance mm : +-0,2
KSB travel mm : 4,3
TLA travel mm : 6,5

POTENTIOMETER SET

1. measurement

voltage Volt : 5,0

1. measurement

voltage Volt : 0,8

CONTROL LEVER POSITION SET

Control lever

position YA mm : 35,1..39,1

Control lever

position YB mm : 56,9..68,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 06.02.96 : ISO 4113

Part no.

: 0 460 494 355 Pump designation: VE4/9F2150R577-1

Customer-spec. information

Customer

: NISSAN-MISA

Motor

: GX-3

Power KW 53.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

6.00 Outside diameter :

x inside diameter: 2.00 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1200 Rated speed rpm

3.2 Setting mm : 0.2 Tolerance mm

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1200

5.9 Setting hPa Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2150 Rated speed rpm Del. quantity cm3/1000 strokes : 44.5

Tolerance cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.5

Shutoff solenoid

12 Volt

IDLE SETTING

Rated speed rpm 375 Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : 2.0

8.5

2.5

Shutoff solenoid

12 Volt

Spread cm3/1000 strokes :

Check tolerance

cm3/1000s. 3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm 2500

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 60.0

Tolerance cm3/1000 strokes	: 15.0	<b>‡</b>	Rated speed rpm Overflow quantity	:	600	
Shutoff solenoid	: 12	+	ccm/10s Tolerance	:	63.8	
VOCE	; 12	Ŧ	ccm/10s	:	22.2	
		Ŧ	Check tolerance		20.2	
		‡	ccm/10s Shutoff solenoid	:	22.2	
INJECTION-PUMP TE	ST SPECIFICATIONS	‡	Volt	:	12	
TIMING DEVICE CHA	RACTERISTIC	<u> </u>	DELIVERY AND BREA	KAWA	AY CHARACTER	ISTIC
Rated speed rpm	: 2150	‡	Rated speed rpm Del. quantity	:	2500	
SV travel mm	: 9.2	1	cm3/1000 strokes	•	15.0	
Tolerance mm	: 0.4	1	Tolerance	•		
Check	•	+	cm3/1000 strokes	:	3.0	
tolerance mm	: 0.7	+	Check tolerance			
Shutoff solenoid		+	cm3/1000s.	:	4.5	
Volt	: 12	+	Shutoff solenoid			
		+	Volt	:	12	
Rated speed rpm	: 900	+				
		†	Rated speed rpm	:	2350	
SV travel mm	: 1.2	†	Del. quantity		77 7	
Tolerance mm	: 0.4	†	cm3/1000 strokes	:	33.3	
Check	: 0.7	Ť	Tolerance cm3/1000 strokes	:	4.0	
tolerance mm Shutoff solenoid	: 0.7	Ţ	Check tolerance	•	4.0	
Volt	: 12	I	cm3/1000s.		5.5	
VOCC	• 12	I	Shutoff solenoid	•	٥.,	
SUPPLY PUMP PRESSU	JRE CHARACTERISTIC	+	Volt	:	12	
		+				
Rated speed rpm	: 2150	†	Rated speed rpm	:	2700	
Snabeta bowb	0.7	†	Del. quantity		2.5	
pressure bar	: 8.7	†	cm3/1000 strokes	:	2.5	
Tolerance hPa	: 0.3	†	Tolerance cm3/1000 strokes		2 5	
Shutoff solenoid	: 12	Ť	Check tolerance	:	2.5	
Volt	: 12	I	cm3/1000s.	•	2.5	
Rated speed rpm	: 900	I	Shutoff solenoid	•	2.7	
Supply pomp	. 700	1	Volt	•	12	
pressure bar	: 5.0	1		•		
Tolerance hPa	: 0.3	+	Rated speed rpm	:	900	
Shutoff solenoid		+	Del. quantity			
Volt	: 12	+	cm3/1000 strokes	:	42.2	
		†	Tolerance		4 5	
OVERFLOW QUANTITY		†	cm3/1000 strokes	:	1.5	
0-4-1	. 2450	†	Check tolerance		2.5	
Rated speed rpm	: 2150	7	cm3/1000s. Shutoff solenoid	•	2.5	
Overflow quantity ccm/10s	: 97.2	I	Volt		12	
Tolerance	. 71.6	I	VOCC	•	12	
ccm/10s	: 41.6	1	Rated speed rpm	:	1200	
J J H J J J J J J J J J J J J J J J J J		1	Del. quantity	-		
Check tolerance		+	cm3/1000 strokes	:	43.2	
ccm/10s	: 41.6	+	Tolerance			
Shutoff solenoid		+	cm3/1000 strokes	:	1.5	
Volt	: 12	+	Check tolerance		a -	
		+	cm3/1000s.	:	2.5	

Shutoff solenoid	40	+ Spread
Volt	: 12	+ cm3/1000 strokes : 5.0
Rated speed rpm Del. quantity	: 1800	+ IDLE DELIVERY
cm3/1000 strokes Tolerance	: 44.3	Rated speed rpm : 800 Del. quantity
cm3/1000 strokes Check tolerance	: 1.5	cm3/1000 strokes : 2.5 Tolerance
cm3/1000s. Shutoff solenoid	: 2.5	cm3/1000 strokes : 2.5 Check tolerance
Volt	: 12	cm3/1000s. : 2.5  Shutoff solenoid
Rated speed rpm	: 600	Volt : 12
Del. quantity cm3/1000 strokes	: 41.0	Rated speed rpm : 500
Tolerance cm3/1000 strokes	: 1.5	Del. quantity cm3/1000 strokes : 1.5
Check tolerance cm3/1000s. Shutoff solenoid	: 2.5	Tolerance cm3/1000 strokes : 1.5
Volt	: 12	+ Check tolerance + cm3/1000s. : 1.5
Rated speed rpm	: 2150	+ Shutoff solenoid + Volt : 12
Del. quantity cm3/1000 strokes	: 44.5	+
Tolerance cm3/1000 strokes	: 0.5	<del>†</del>
Check tolerance cm3/1000s.	: 1.3	
Shutoff solenoid Volt	: 12	START TRANSITION
		+ Rated speed rpm : 400 + Del. quantity
ELECTR. SHUTOFF		
CONTROL LEVER, ID	LE STOP	+ cm3/1000 strokes : 20.0 + Shutoff solenoid
Rated speed rpm Del. quantity		+ Volt : 12
cm3/1000 strokes Tolerance		Rated speed rpm : 270
cm3/1000 strokes Check tolerance		Del. quantity cm3/1000 strokes : 70.0
cm3/1000s. Spread	: 1.5	Tolerance cm3/1000 strokes : 20.0
cm3/1000 strokes	: 5.0	+ Shutoff solenoid + Volt : 12
FULL-LOAD STOP CO	NTROL LEVER	
Rated speed rpm Del. quantity	: 375	ASSEMBLY AND ADJUSTMENT DIMENSIONS
cm3/1000 strokes Tolerance	: 1.5	Dimension K mm : 3,3 Tolerance mm : +-0,1
cm3/1000 strokes	: 1.5	Dimension KF mm : 5,4
Spread cm3/1000 strokes	: 5.0	Dimension MS mm : 1,2
I BACK TALABARA		
Check tolerance cm3/1000s.	: 1.5	Tolerance mm : +-0,2  KSB travel mm : 4,3  TLA travel mm : 6,5

CONTROL LEVER POSITION SET

Control lever position YA mm : 35,1..39,1

Control lever position YB mm : 56,9..68,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.02.95 : ISO 4113

Part no.

: 0 460 494 385

Pump designation : VE4/9F2150R281-2

Customer-spec. information

Customer

: PSA

Motor Power KW : XUD11ATE-Y BVA

78.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature \*C 45 Tolerance °C

Overflow restriction mm

0.55

Inlet press. bar : 0.35

Tolerance bar

0.05

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

bar

130

Tolerance bar

3

Test lines

: 1 680 750 073

Outside diameter :

6.00

x inside diameter:

x Length mm

2.00

450

**REMARKS** 

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm

1250

Aneroid pressure

1000

Setting mm

hPa

2.9

Tolerance mm

0.1

Shutoff solenoid Volt

12

SUPPLY PUMP PRESSURE

Rated speed rpm

1250

Aneroid pressure hPa

1000

5.3

Setting hPa Tolerance hPa

0.3

Shutoff solenoid

Volt

12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm :

1250

Aneroid pressure

1000 :

Del. quantity

61.5

cm3/1000 strokes : Tolerance

0.5

cm3/1000 strokes : Spread

2.5

cm3/1000 strokes : Check tolerance

cm3/1000s.

2.5

Shutoff solenoid

Volt

12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm :

500

Del. quantity cm3/1000 strokes :

42.5

Tolerance

cm3/1000 strokes :

0.5

Spread

cm3/1000 strokes :

2.5

Shutoff solenoid

Volt

12

Check tolerance cm3/1000s.

2.5

Check tolerance cm3/1000s.

2.5

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm :

550

N. I	•
Del. quantity	† 60 to 200 to 2
cm3/1000 strokes : 3.0	+ SV travel mm : 1.6
Tolerance	Tolerance mm : 0.3
cm3/1000 strokes : 0.5	+ Check
Shutoff solenoid	tolerance mm : 0.7
Volt : 12	+ Shutoff solenoid
5	+ Volt : 12
FULL-LOAD SPEED REGULATION	Ϋ́
	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Rated speed rpm : 2250	†
Pressure hPa : 1000	+ Rated speed rpm : 2000
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 52.0	+ hPa : 1000
Tolerance	+ Supply pomp
cm3/1000 strokes : 3.0	+ pressure bar : 7.4
Shutoff solenoid	Tolerance hPa : 0.3
Volt : 12	+ Shutoff solenoid
	+ Volt : 12
STARTING FUEL DELIVERY	+
	+ Rated speed rpm : 1000
Rated speed rpm : 100	+ Aneroid pressure
Del. quantity	† hPa : 1000
cm3/1000 strokes : 75.0	+ Supply pomp
Tolerance	+ pressure bar : 4.6
cm3/1000 strokes : 5.0	+ Tolerance hPa : 0.3
Shutoff solenoid	+ Shutoff solenoid
Volt : 12	† Volt : 12
	†
SET GRADUATED STARTING DELIVERY	+ OVERFLOW QUANTITY
CONTROL LEVER, IDLE STOP	†
	+ Rated speed rpm : 2000
Rated speed rpm : 200	+ Overflow quantity
Del. quantity	+ ccm/10s : 97.2
cm3/1000 strokes : 77.0	† Tolerance
Tolerance	+ ccm/10s : 41.6
cm3/1000 strokes : 1.0	†
Shutoff solenoid	+ Check tolerance
Volt : 12	+ ccm/10s : 41.6
	+ Shutoff solenoid
	† Volt : 12
	<b>†</b>
	+ Rated speed rpm : 500
INJECTION—PUMP TEST SPECIFICATIONS	+ Overflow quantity
	+ ccm/10s : 62.5
TIMING DEVICE CHARACTERISTIC	+ Tolerance
2000	+ ccm/10s : 20.8
Rated speed rpm : 2000	† <u> </u>
Aneroid pressure	+ Check tolerance
hPa : 1000	+ ccm/10s : 20.8
	+ Shutoff solenoid
SV travel mm : 6.9	+ Volt : 12
Tolerance mm : 0.3	†
Check	† DELIVERY AND BREAKAWAY CHARACTERISTIC
tolerance mm : 0.7	† Batasi and I com
Shutoff solenoid	Rated speed rpm : 2250
Volt : 12	Aneroid pressure
4000	+ hPa : 1000
Rated speed rpm : 1000	+ Del. quantity
Aneroid pressure	+ cm3/1000 strokes : 52.0
hPa : 1000	†

Tolerance cm3/1000 strokes	:	3.0	7	+	Rated speed rpm	:	1000	
Check tolerance cm3/1000s.	:	4.0	-		Aneroid pressure hPa	:	1000	
Shutoff solenoid Volt	:	12			Del. quantity cm3/1000 strokes Tolerance	:	62.0	
Rated speed rpm Aneroid pressure	:	2400			cm3/1000 strokes Check tolerance	:	1.5	
hPa Del. quantity	:	1000	- -		cm3/1000s. Shutoff solenoid	:	2.5	
cm3/1000 strokes Check tolerance	:	37.0	-	-	Volt	:	12	
cm3/1000S. Shutoff solenoid	:	4.0	-	<del> </del>	Rated speed rpm Aneroid pressure	:	500	
Volt	:	12	•	-	hPa Del. quantity	:	1000	
Rated speed rpm Aneroid pressure	:	2700 1000	7	-	cm3/1000 strokes Tolerance		60.5 1.5	
hPa Del. quantity cm3/1000 strokes	•	8.0			cm3/1000 strokes Check tolerance cm3/1000s.	:	2.5	
Tolerance cm3/1000 strokes		3.0	1		Shutoff solenoid Volt	:	12	
Check tolerance cm3/1000s.	:	4.0	-	<u> </u>	Rated speed rpm	:	1250	
Shutoff solenoid Volt	:	12	-	-	Aneroid pressure hPa	:	1000	
Rated speed rpm	:	750	+	-	Del. quantity cm3/1000 strokes	:	61.5	
Aneroid pressure hPa	:	400	†	1	Tolerance cm3/1000 strokes Check tolerance	:	0.5	
Del. quantity cm3/1000 strokes Tolerance	:	56.5			cm3/1000S. Shutoff solenoid	:	2.3	
	:	0.5	-	<b>-</b>	Volt	:	12	
cm3/1000s. Shutoff solenoid	:	3.0	+	<b>-</b> -	MECHANICAL SHUTOF	F		
Volt	:	12	+	<u>-</u>	Rated speed rpm	:	2000	
Rated speed rpm Aneroid pressure	:	2000	+	-	Aneroid pressure hPa	:	1000	
hPa Del. quantity cm3/1000 strokes	:	1000 57.5	1	-	Del. quantity cm3/1000 strokes Tolerance	:	1.5	
Tolerance cm3/1000 strokes		1.5		- -	cm3/1C30 strokes Check tolerance	:	1.5	
Check tolerance cm3/1000s.	:	2.3	+	<b>-</b>	cm3/1000S. Shutoff solenoid	:	1.5	
Shutoff solenoid Volt	:	12	†	• •	Volt	:	12	
Rated speed rpm	:	500	†	-	ELECTR. SHUTOFF			<del></del>
Aneroid pressure hPa	:	1000	†	•	CONTROL LEVER, ID Rated speed rpm	LE 3	325	
Del. quantity cm3/1000 strokes Shutoff solenoid	:	17.5	1	•	Del. quantity cm3/1000 strokes	•	1.5	
Volt	:	12	1	-	VIII. 1000 36100C3	•	·• J	

Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5

IDLE DELIVERY

Rated speed rpm : 375
Del. quantity
cm3/1000 strokes : 8.0
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000s. : 3.0
Shutoff solenoid
Volt : 12

EXHAUST-GAS RECIRCULATION

Rated speed rpm 1500 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000S.3.0 Shutoff solenoid Volt 12 Rated speed rpm 500

Aneroid pressure
hPa : 1000
Del. quantity
cm3/1000 strokes : 17.5
Tolerance
cm3/1000 strokes : 0.5
Check tolerance
cm3/1000s. : 3.0
Shutoff solenoid
Volt : 12

START TRANSITION

Rated speed rpm : 325
Del. quantity
cm3/1000 strokes : 40.5
Tolerance
cm3/1000 strokes : 3.5
Shutoff solenoid
Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,4
Tolerance mm : +-0,2

POTENTIOMETER

SET

1. measurement voltage Volt : 5,0

1. measurement

voltage Volt : ARF1=2,9 V

2. measurement

voltage Volt : ARF2=1,9 V

MICROSWITCH

SET

: ARF 12,0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.07.94 : ISO 4113 Test oil

: 0 460 484 054 Part no. Pump designation: VE4/8F2300R425-1

Customer-spec. information Customer : PSA

Motor : XUD9AL Peug. D70

#### TEST BENCH REQUIREMENTS

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450 :

#### REMARKS

#### BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

Outlet : A

#### INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.7 Setting mm Tolerance mm 0.2 Shutoff solenoid

Volt 12

# SUPPLY PUMP PRESSURE

1250 Rated speed rpm

Setting hPa 6.0 Tolerance hPa 0.3 Shutoff solenoid Volt 12

#### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2.0

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread cm3/1000 strokes :

Shutoff solenoid 12 Volt

### HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm

Del. quantity cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

#### FULL-LOAD SPEED REGULATION

Rated speed rpm 2650

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

#### STARTING FUEL DELIVERY

Rated speed rpm 100

		•				
Del. quantity		†	Check		0.7	
cm3/1000 strokes	: 55.0	†		:	0.7	
Tolerance	. 17.0	†	Shutoff solenoid		13	
cm3/1000 strokes	: 13.0	†	Volt	:	12	
Shutoff solenoid Volt	: 12	†	SUPPLY PUMP PRESS	LIDE	CHADACTERT	CTIC
VOCC	. 12	I	SUPPLY FUMP PRESS	UKE	CHARACTERI	3116
		I	Rated speed rpm	:	2200	
		I	Supply pomp	•	2200	
LOAD-DEPENDENT ST	ART OF DELT	VERY	pressure bar		8.5	
SETTING	ART OF DEEL	1	Tolerance hPa	•	0.3	
32112113		1	Shutoff solenoid	•	0.0	
DELIVERY DIFFEREN	ICE	1	Volt	:	12	
	_	+			_	
Rated speed rpm	: 1250	+	Rated speed rpm	:	500	
Del. quantity		+	Supply pomp			
cm3/1000 strokes	: -6.0	+	pressure bar	:	3.6	
Tolerance		+	Tolerance hPa	:	0.3	
cm3/1000 strokes	: 1.0	+	Shutoff solenoid			
Shutoff solenoid		+	Volt	:	12	
Volt	: 12	+				
		+	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	ICE	+				
		+	Rated speed rpm		2200	
Rated speed rpm	: 1250	+	Overflow quantity			
Del. quantity		+	ccm/10s	:	97.2	
cm3/1000 strokes	: -0.2	+	Tolerance			
Tolerance		+	ccm/10s	:	41.6	
cm3/1000 strokes	: 0.1	+				
Shutoff solenoid		<del>†</del>	Check tolerance			
Volt	: 12	t	ccm/10s	:	55.5	
		·· †	Shutoff solenoid		40	
TIMING-DEVICE TRA	AFF DIFFERE	NCE †	Volt	:	12	
Data dama adama	. 1250	†	Detect aread are		500	
Rated speed rpm	: 1250	Ť	Rated speed rpm	:	200	
Del. quantity cm3/1000 strokes	: -1.0	<u>†</u>	Overflow quantity ccm/10s		63.8	
Tolerance	: -1.0	Ť	Tolerance	•	03.0	
cm3/1000 strokes	: 0.1	Ι	ccm/10s		22.2	
Shutoff solenoid	. 0.1	I	Cemir TOS	•	26.6	
Volt	: 12	I	Check tolerance			
VOCC		1	ccm/10s	•	34.7	
<del></del>			Shutoff solenoid	•	J ( • )	
INJECTION-PUMP TE	ST SPECIFICA	ATIONS 1	Volt	:	12	
		+				
TIMING DEVICE CHA	RACTERISTIC	+	DELIVERY AND BREAK	CAWA	Y CHARACTE	RISTIC
		+				
Rated speed rpm	: 2000	+	Rated speed rpm	:	2650	
		+	Del. quantity			
SV travel mm	: 7.1	+	cm3/1000 strokes	:	11.0	
Tolerance mm	: 0.4	<del>ļ</del>	Tolerance			
Check	_	+	cm3/1000 strokes	:	2.0	
tolerance mm	: 0.7	+	Check tolerance			
Shutoff solenoid	_	+	cm3/1000s.	:	4.0	
Volt	: 12	+	Shutoff solenoid		40	
		†	Volt	:	12	
Rated speed rpm	: 800	†	Ontrad annual war		2500	
CM Americal area	. 4.	†	Rated speed rpm	:	2500	
SV travel mm	: 1.6	†	Del. quantity cm3/1000 strokes		22.5	
Tolerance mm	: 0.4	+	Chis/ 1000 Strokes	:	66.3	

L04

Tolerance			+			
cm3/1000 strokes Check tolerance	:	3.0	‡			
cm3/1000s. Shutoff solenoid	:	5.0	1			
Volt	;	12	İ	CHECKING LOAD-DEF	)ENIN	FNT
Rated speed rpm Del. quantity	:	2900	1	START OF DELIVERY		LIVI
cm3/1000 strokes Tolerance	:	3.0	1	DELIVERY DIFFEREN	1CE	
cm3/1000 strokes Check tolerance	:	3.0	1	Rated speed rpm Del. quantity	:	1250
cm3/1000S. Shutoff solenoid	:	3.0	1	cm3/1000 strokes Tolerance	:	-8.5
Volt	:	12	1	cm3/1000 strokes Check tolerance	:	5.0
Rated speed rpm Del. quantity	:	2200	‡	cm3/1000S. Shutoff solenoid	:	5.0
cm3/1000 strokes Tolerance	:	33.0	1	Volt	:	12
cm3/1000 strokes Check tolerance	:	1.0	1	TIMING-DEVICE TRA	IVEL	DIFFERENCE
cm3/1000S. Shutoff solenoid	:	2.2	1	Rated speed rpm Del. quantity	:	1250
Volt	:	12	1	cm3/1000 strokes Tolerance	:	-1.0
Rated speed rpm Del. quantity	:	500	1	cm3/1000 strokes Check tolerance	:	0.1
cm3/1000 strokes Tolerance	:	31.3	1	cm3/1000s. Shutoff solenoid	:	0.1
cm3/1000 strokes Check tolerance	:	1.5	<u> </u>	Volt	:	12
cm3/1000s. Shutoff solenoid	:	3.0	1	DELIVERY DIFFEREN	ICE	
Volt	:	12	+	Rated speed rpm Del. quantity	:	1250
Rated speed rpm Del. quantity	:	1250	+	cm3/1000 strokes Tolerance	:	5.0
cm3/1000 strokes Tolerance	:	30.2	+	cm3/1000 strokes Check tolerance	:	3.0
cm3/1000 strokes Check tolerance	:	0.5	+	cm3/1000s. Shutoff solenoid	:	3.0
cm3/1000s. Shutoff solenoid	:	2.2	+	Volt	:	12
Volt	:	12	‡	PRESSURE DIFFEREN	CE	
			‡	Rated speed rpm Supply pomp	:	1250
ELECTR. SHUTOFF		TAR	+	pressure bar	:	-1.5 0.7
CONTROL LEVER, ID	LE S	109	‡	Tolerance hPa Shutoff solenoid	:	0.3
Rated speed rpm Del. quantity	:	375	‡	Volt	:	12
cm3/1000 strokes Tolerance	:	1.5	‡	TIMING-DEVICE TRA	VEL	
cm3/1000 strokes Check tolerance	:	1.5 1.5	+	Rated speed rpm Tolerance mm Check	:	1250 <b>0.</b> 5
cm3/1000s.	•	1.0	Į	tolerance mm	:	0.6

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +0,1
Dimension KF mm : 6,0
Tolerance mm : +0,2
Dimension MS mm : 1,4
Tolerance mm : +0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 18,8..22,8

Control lever

position YB mm : 78,4..90,6

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.04.95 : ISO 4113 Test oil

: 0 460 484 098 Part no. Pump designation: VE4/8F2300R425-11

Customer—spec. information : PSA Customer : XUD9 A/L Motor Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar :

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

**REMARKS** 

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3 Tolerance mm : +-0,02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.7 Tolerance mm 0.2 Shutoff solenoid Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 6.0 Tolerance hPa 0.3 Shutoff solenoid

12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2.0

Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes :

Shutoff solenoid Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm 2650

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

2.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

STARTING FUEL DEL	IVE	RY	
Rated speed rpm	:	100	
Del. quantity cm3/1000 strokes Tolerance	:	55.0	
cm3/1000 strokes Shutoff solenoid	:	13.0	
Volt	:	12	
LOAD-DEPENDENT ST SETTING	ART	OF DELIVERY	
DELIVERY DIFFEREN	CE		
Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	-6.0	
cm3/1000 strokes Shutoff solenoid	:	1.0	
Volt	:	12	
PRESSURE DIFFEREN	CE		
Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	-0.2	
cm3/1000 strokes Shutoff solenoid	:	0.1	
Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	
Rated speed rpm Del. quantity	:	1250	
cm3/1000 strokes Tolerance	:	-1.0	
cm3/1000 strokes Shutoff solenoid	:	0.1	
Volt	:	12	
INJECTION-PUMP TES	ST S	SPECIFICATIONS	
TIMING DEVICE CHAP	RACT	TERISTIC	
Rated speed rpm	:	2000	

7.1 0.4

12

SV travel mm Tolerance mm Check	: 1.6 : 0.4
tolerance mm Shutoff solenoid	: 0.7
Volt	: 12
SUPPLY PUMP PRESS	URE CHARACTERISTIC
Rated speed rpm Supply pomp	: 2200
pressure bar Tolerance hPa	: 8.5 : 0.3
Shutoff solenoid Volt	: 12
Rated speed rpm Supply pomp	: 500
pressure bar Tolerance hPa	: 3.6 : 0.3
Shutoff solenoid Volt	: 12
OVERFLOW QUANTITY	
Rated speed rpm Overflow quantity	: 2200
ccm/10s Tolerance	: 97.2
ccm/10s	: 41.6
Check tolerance ccm/10s	: 55.5
Shutoff solenoid Volt	: 12
Rated speed rpm Overflow quantity	: 500
ccm/10s Tolerance	: 63.8
ccm/10s	: 22.2
Check tolerance ccm/10s	: 34.7
Shutoff solenoid Volt	: 12
DELIVERY AND BREAK	AWAY CHARACTERISTIC
Rated speed rpm	: 2650
Del. quantity cm3/1000 strokes	: 11.0
Tolerance cm3/1000 strokes Check tolerance	: 2.0
cm3/1000s. Shutoff solenoid	: 4.0
Volt	: 12

L08

Check

Volt

SV travel mm : Tolerance mm :

Shutoff solenoid

tolerance mm : 0.7

Rated speed rpm : 800

Rated speed rpm Del. quantity		2500 22.5	‡	Check tolerance cm3/1000s.	:	1.5
cm3/1000 strokes Tolerance cm3/1000 strokes		3.0	Ŧ	FULL-LOAD STOP CO	ONTR	OL LEVER
Check tolerance cm3/1000s.		5.0	Ŧ	Rated speed rpm Del. quantity	:	400
Shutoff solenoid Volt	•	ا. 12	Ŧ	cm3/1000 strokes Tolerance	:	1.5
Rated speed rpm	:		Ŧ	cm3/1000 strokes Check tolerance	:	1.5
Del. quantity cm3/1000 strokes		3.0	$\frac{1}{1}$	cm3/1000s.	:	1.5
Tolerance cm3/1000 strokes		3.0	1			
Check tolerance cm3/1000s.	:	3.0	‡			
Shutoff solenoid Volt	:	12	‡	CHECKING LOAD-DEF	PEND	ENT
Rated speed rpm		2200	‡	START OF DELIVERY	′	
Del. quantity cm3/1000 strokes		33.0	‡	DELIVERY DIFFEREN	VCE	
Tolerance cm3/1000 strokes	:	1.0	‡	Rated speed rpm Del. quantity		
Check tolerance cm3/1000s.	:	2.2	‡	cm3/1000 strokes Tolerance		-8.5
Shutoff solenoid Volt	:	12	‡	cm3/1000 strokes Check tolerance	:	5.0
Rated speed rpm	:	500	Ŧ	cm3/1000s. Shutoff solenoid	:	5.0 12
Del. quantity cm3/1000 strokes Tolerance	:	31.3	Ŧ	Volt TIMING-DEVICE TRA	:	
cm3/1000 strokes Check tolerance	:	1.5	Ŧ	Rated speed rpm		
cm3/1000s. Shutoff solenoid	:	3.0	$\pm$	Del. quantity cm3/1000 strokes		
Volt	:	12	1	Tolerance cm3/1000 strokes		0.1
Rated speed rpm Del. quantity	:	1250	<u> </u>	Check tolerance cm3/1000s.	:	0.1
cm3/1000 strokes Tolerance	:	30.2	<u> </u>	Shutoff solenoid Volt	:	12
cm3/1000 strokes Check tolerance	:	0.5	+	DELIVERY DIFFEREN	ICE	
cm3/1000s. Shutoff solenoid	:	2.2	<b>†</b>	Rated speed rpm	:	1250
Volt	:	12	‡	Del. quantity cm3/1000 strokes	:	5.0
			<del></del> ‡	Tolerance cm3/1000 strokes	:	3.0
ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	TOP	<del>†</del>	Check tolerance cm3/1000s.	:	3.0
Rated speed rpm Del. quantity	:	400	Ī	Shutoff solenoid Volt	:	12
cm3/1000 strokes Tolerance	:	1.5	Ī	PRESSURE DIFFEREN	CE	
cm3/1000 strokes	:	1.5	+	Rated speed rpm	:	1250

Supply pomp

-1.5pressure bar Tolerance hPa 0.3

Shutoff solenoid

12 Volt

# TIMING-DEVICE TRAVEL DIFFERENCE

1250 Rated speed rpm 0.5 Tolerance mm

Check

0.6 tolerance mm

Shutoff solenoid

12 Volt

# EXHAUST-GAS RECIRCULATION

Rated speed rpm 1000

Tolerance

1.0 cm3/1000 strokes :

Check tolerance 4.0

cm3/1000s.Shutoff solenoid

12 Volt

# START TRANSITION

350 Rated speed rpm

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

225 Rated speed rpm

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

12 Volt

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 Tolerance mm : +-0,2 Dimension MS mm : 1,4 Tolerance mm : +-0,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.11.95 Test oil : ISO 4113

: 0 460 484 109 Part no. Pump designation : VE4/8F2300R425-13

Customer-spec. information Customer : PSA

: XUD9 A L3 Motor Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0.3 Tolerance mm : +-0,02

Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

1250 Rated speed rpm :

Setting hPa 6.0 Tolerance hPa : 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2650

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

-	+
SET GRADUATED STARTING DELIVERY	SV travel mm : 0.8
CONTROL LEVER, IDLE STOP	Tolerance mm : 0.4
•	+ Check
Rated speed rpm : 100 -	tolerance mm : 0.7
Del. quantity	+ Shutoff solenoid
cm3/1000 strokes : 47.0	+ Volt : 12
Tolerance	†
cm3/1000 strokes : 1.0	SUPPLY PUMP PRESSURE CHARACTERISTIC
Shutoff solenoid -	†
Volt : 12 -	Rated speed rpm : 2200
•	Supply pomp
LAAA DEDGAARAAT ATAAT AT DELTAGAY	pressure bar : 8.5
LOAD-DEPENDENT START OF DELIVERY	Tolerance hPa : 0.3
SETTING -	Shutoff solenoid
-	+ Volt : 12
DELIVERY DIFFERENCE -	Rated speed rpm : 500
Rated speed rpm : 1250 -	+ Rated speed rpm : 500 + Supply pomp
Del. quantity	pressure bar : 3.6
cm3/1000 strokes : -6.0 -	Tolerance hPa : 0.3
Tolerance	Shutoff solenoid
cm3/1000 strokes : 1.0	Volt : 12
Shutoff solenoid -	
Volt : 12	OVERFLOW QUANTITY
	072.11 20W Q071111 2111
PRESSURE DIFFERENCE	Rated speed rpm : 2200
	Overflow quantity
Rated speed rpm : 1250	ccm/10s : 97.2
Del. quantity	Tolerance
cm3/1000 strokes : -0.2	ccm/10s : 41.6
Tolerance	1
cm3/1000 strokes : 0.1	- Check tolerance
Shutoff solenoid	+ ccm/10s : 55.5
Volt : 12	Shutoff solenoid
<del>1</del>	+ Volt : 12
TIMING-DEVICE TRAVEL DIFFERENCE	<del></del>
4050	Rated speed rpm : 500
Rated speed rpm : 1250	Overflow quantity
Del. quantity	ccm/10s : 63.8
cm3/1000 strokes : -1.0	Tolerance ccm/10s : 22.2
Tolerance - cm3/1000 strokes : 0.1	ccm/10s : 22.2
Shutoff solenoid	Check tolerance
Volt : 12	com/10s : 34.7
VO(t . 12	Shutoff solenoid
	Volt : 12
INJECTION—PUMP TEST SPECIFICATIONS	
-	DELIVERY AND BREAKAWAY CHARACTERISTIC
TIMING DEVICE CHARACTERISTIC	-
+	- Rated speed rpm : 2650
Rated speed rpm : 2000	- Del. quantity
Tolerance mm : 0.4	- cm3/1000 strokes : 11.0
Check	Tolerance
tolerance mm : 0.7	- cm3/1000 strokes : 2.0
Shutoff solenoid +	- Check tolerance
Volt : 12	- cm3/1000s. : 4.0
500	- Shutoff solenoid
Rated speed rpm : 800	- Volt : 12
<b>→</b>	

Rated speed rpm Del. quantity			‡	Shutoff solenoid Volt	:	12
cm3/1000 strokes Tolerance	:	22.5	‡			
cm3/1000 strokes Check tolerance	:	3.0	<u> </u>	ELECTR. SHUTOFF CONTROL LEVER, II	OLF	STOP
cm3/1000s.	:	5.0	+	·		
Shutoff solenoid Volt	:	12	Ŧ	Rated speed rpm Del. quantity		400
Rated speed rpm	:	2900	‡	cm3/1000 strokes Tolerance		1.5
Del. quantity cm3/1000 strokes	:	1.5	‡	cm3/1000 strokes Check tolerance	:	1.5
Tolerance cm3/1000 strokes	:	1.5	+	cm3/1000s.	:	1.5
Check tolerance cm3/1000s.	:	1.5	‡			
Shutoff solenoid Volt	:	12	†			
Rated speed rpm	:	2200	Ŧ			
Del. quantity cm3/1000 strokes Tolerance	:	33.0	Ţ	CHECKING LOAD-DEF START OF DELIVERY		ENI
cm3/1000 strokes Check tolerance	:	1.0	+	DELIVERY DIFFEREN	ICE	
cm3/1000S. Shutoff solenoid	:	2.2	1	Rated speed rpm Del. quantity	:	1250
Volt	:	12	1	cm3/1000 strokes Tolerance	:	-7.0
Rated speed rpm Del. quantity	:	500	Ì	cm3/1000 strokes Check tolerance	:	3.0
cm3/1000 strokes Tolerance	:	31.3	<del>-</del>	cm3/1000s. Shutoff solenoid	:	3.0
cm3/1000 strokes	:	1.5	Ŧ	Volt	:	12
Check tolerance cm3/1000s. Shutoff solenoid	:	3.0	<u> </u>	TIMING-DEVICE TRA	IVEL	DIFFERENCE
Volt	:	12	Ţ	Rated speed rpm Del. quantity	:	1250
Rated speed rpm Del. quantity	:	1250	1	cm3/1000 strokes Tolerance	:	-1.0
cm3/1000 strokes Tolerance	:	30.2	<del>-</del>	cm3/1000 strokes Check tolerance	:	0.1
cm3/1000 strokes Check tolerance	:	0.5	Ŧ	cm3/1000s. Shutoff solenoid	:	0.1
cm3/1000s. Shutoff solenoid	:	2.2	Ŧ	Volt	:	12
Volt	:	12	Ī	DELIVERY DIFFEREN	CE	
MECHANICAL SHUTOF	 F			Rated speed rpm Del. quantity	:	1250
Rated speed rpm	•	2200	‡	cm3/1000 strokes Tolerance	:	5.0
Del. quantity cm3/1000 strokes			‡	cm3/1000 strokes Check tolerance	:	3.0
Tolerance cm3/1000 strokes		1.5	‡	cm3/1000s. Shutoff solenoid	:	3.0
Check tolerance cm3/1000s.	:	1.5	‡	Volt	:	12
		-	•			

Rated speed rpm : 1250

Supply pomp

pressure bar : -1.5 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

## TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250 Tolerance mm : 0.5

Check

tolerance mm : 0.6

Shutoff solenoid

Volt : 12

# EXHAUST-GAS RECIRCULATION

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 21.4

Tolerance

cm3/1000 strokes : 1.0

Check tolerance cm3/1000s.

cm3/1000s. : 4.0

Shutoff solenoid

Volt : 12

# START TRANSITION

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7

Tolerance mm : +0,1 Dimension KF mm : 6,0

Tolerance mm : +-0,2

Dimension MS mm : 1,4 Tolerance mm : +-0,2

olerance mm :

MICROSWITCH

SET

mm : 0,8...3,0

: ARF 12,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.02.96 Edition Test oil : ISO 4113

: 0 460 484 110 Part no. Pump designation: VE4/8F2300R425-14

Customer-spec. information

: PSA Customer

: XUD9AY-L3 Cit.ZX Motor

50.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C 1

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

**essembly** : 1 688 901 022

Opening pressure

bar 130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

**REMARKS** 

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0.2

Outlet |

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1250 Rated speed rpm :

Setting mm Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rom 1250

Setting hPa 6.0 Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1250 :

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2650

Del. quantity

11.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Voit

12

			+				
SET GRADUATED STA	ARTII	NG DELIVERY	+	SV travel mm	:	8.0	
CONTROL LEVER, II	DLE S	STOP	+	Tolerance mm	:	0.4	
·			+	Check			
Rated speed rpm	:	100	+	tolerance mm	:	0.7	
Del. quantity			+	Shutoff solenoid			
cm3/1000 strokes	:	47.0	+	Volt	:	12	
Tolerance			+				
cm3/1000 strokes	:	1.0	+	SUPPLY PUMP PRESS	URE	CHARACTE	RISTIC
Shutoff solenoid			+				
Volt	:	12	+	Rated speed rpm	:	2200	
			+	Supply pomp			
			+	pressure bar	:	8.5	
LOAD-DEPENDENT ST	ART	OF DELIVERY	+	Tolerance hPa	:	0.3	
SETTING			+	Shutoff solenoid			
			t	Volt	:	12	
DELIVERY DIFFEREN	ICE		+				
		4055	†	Rated speed rpm	:	500	
Rated speed rpm	:	1250	+	Supply pomp			
Del. quantity		. •	†	pressure bar	:	3.6	
cm3/1000 strokes	:	−6.0	†	Tolerance hPa	:	0.3	
Tolerance		4.0	†	Shutoff solenoid		10	
cm3/1000 strokes	:	1.0	†	Volt	:	12	
Shutoff solenoid		12	<b>T</b>	OVEREL OUT OUTSETT			
Volt	•	12	T	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	ICE		T	Pated speed nom		2200	
PRESSURE DIFFEREN	/LE		I	Rated speed rpm Overflow quantity		2200	
Rated speed rpm		1250	I	ccm/10s		97.2	
Del. quantity	•	1230	I	Tolerance	•	71.6	
cm3/1000 strokes		-0.2	I	ccm/10s	:	41.6	
Tolerance	•	0.2	1	CCIII/ 103	•	41.0	
cm3/1000 strokes	•	0.1	1	Check tolerance			
Shutoff solenoid	•	<b>0.</b> 1	1	ccm/10s	•	55.5	
Volt	•	12	1	Shutoff solenoid	•		
	•		1	Volt	:	12	
TIMING-DEVICE TRA	VEL	DIFFERENCE	<u>†</u>				
			1	Rated speed rpm	:	500	
Rated speed rpm	:	1250	+	Overflow quantity			
Del. quantity			+	ccm/10s	:	63.8	
cm3/1000 strokes	:	-1.0	+	Tolerance			
Tolerance			+	ccm/10s	:	22.2	
cm3/1000 strokes	:	0.1	+				
Shutoff solenoid			+	Check tolerance			
Volt	:	12	+	ccm/10s	:	34.7	
			+	Shutoff solenoid			
				Volt	:	12	
INJECTION-PUMP TE	ST S	SPECIFICATIONS	s †				
			†	DELIVERY AND BREA	KAWA	Y CHARACI	IERTS 1 TC
TIMING DEVICE CHA	RACI	ERISTIC	†	Data dan and ann		2450	
Dawad	•	2000	†	Rated speed rpm	:	2650	
Rated speed rpm	:	2000	†	Del. quantity		11.0	
Tolerance mm Check	·	0.4	†	cm3/1000 strokes Tolerance	•	11.0	
		0.7	Ţ	cm3/1000 strokes	:	2.0	
tolerance mm Shutoff solenoid	•	υ. τ	Ī	Check tolerance	•	2.0	
Volt		12	Ī	cm3/1000s.	•	4.0	
VOLL	•	12	I	Shutoff solenoid	•	7.0	
Rated speed rpm	:	800	I	Volt	•	12	
nated speed (pill	•	555	Ţ	1000	•	'-	

Rated speed rpm Del. quantity			‡	Shutoff solenoid Volt	:	12
cm3/1000 strokes Tolerance	:	22.5	1			
cm3/1000 strokes Check tolerance	:	3.0	<u> </u>	ELECTR. SHUTOFF CONTROL LEVER, II	DLE	STOP
cm3/1000s.	:	5.0	+			
Shutoff solenoid Volt	:	12	‡	Rated speed rpm Del. quantity		400
Rated speed rpm	:	2900	‡	cm3/1000 strokes Tolerance		1.5
Del. quantity cm3/1000 strokes	:	1.5	‡	cm3/1000 strokes Check tolerance	:	1.5
Tolerance cm3/1000 strokes	:	1.5	‡	cm3/1000s.	:	1.5
Check tolerance cm3/1000s.	:	1.5	‡			
Shutoff solenoid Volt	:	12	‡			
Rated speed rpm	:	2200	Ŧ			FA 1-F
Del. quantity cm3/1000 strokes Tolerance	:	33.0	<u> </u>	CHECKING LOAD-DEF START OF DELIVERY		ENI
cm3/1000 strokes Check tolerance	:	1.0	<u> </u>	DELIVERY DIFFEREN	<b>VCE</b>	
cm3/1000s. Shutoff solenoid	:	2.2	‡	Rated speed rpm Del. quantity	:	1250
Volt	:	12	‡	cm3/1000 strokes Tolerance	:	-7.0
Rated speed rpm Del. quantity	:	500	1	cm3/1000 strokes Check tolerance	:	3.0
cm3/1000 strokes Tolerance	:	31.3	<u> </u>	cm3/1000S. Shutoff solenoid	:	3.0
cm3/1000 strokes Check tolerance	:	1.5	$\frac{1}{1}$	Volt	:	12
cm3/1000s. Shutoff solenoid	:	3.0	$\frac{1}{2}$	TIMING-DEVICE TRA	IVEL	DIFFERENCE
Volt	:	12	Ī	Rated speed rpm Del. quantity	:	1250
Rated speed rpm Del. quantity	:	1250	Ì	cm3/1000 strokes Tolerance	:	-1.0
cm3/1000 strokes Tolerance	:	30.2	<u> </u>	cm3/1000 strokes Check tolerance	:	0.1
cm3/1000 strokes Check tolerance	:	0.5	‡	cm3/1000s. Shutoff solenoid	:	0.1
cm3/1000s. Shutoff solenoid	:	2.2	1	Volt	:	12
Volt	:	12	<u> </u>	DELIVERY DIFFEREN	ICE	
MECHANICAL SHUTOF	F			Rated speed rpm Del. quantity	:	1250
Rated speed rpm		2200	‡	cm3/1000 strokes Tolerance	:	5.0
Del. quantity cm3/1000 strokes			‡	cm3/1000 strokes Check tolerance	:	3.0
Tolerance cm3/1000 strokes		1.5	‡	cm3/1000s. Shutoff solenoid	:	3.0
Check tolerance cm3/1000s.	:	1.5	‡	Volt	:	12
			•			

1250 Rated speed rpm

Supply pomp

-1.5pressure bar 0.3 Tolerance hPa :

Shutoff solenoid

Volt 12

#### TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm Tolerance mm 0.5

Check

0.6 tolerance mm

Shutoff solenoid

12 Volt

#### EXHAUST-GAS RECIRCULATION

Rated speed rpm 1000

Del. quantity cm3/1000 strokes : 19.4

Tolerance

cm3/1000 strokes : 1.0

Check tolerance

cm3/1000s. 4.0

Shutoff solenoid

Volt 12

START TRANSITION

Rated speed rpm 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

Rated speed rpm 225

Del. quantity

54.0 cm3/1000 strokes :

Tolerance

17.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7

Tolerance mm : +-0,1 Dimension KF mm : 6,0

Tolerance mm : +-0,2

Dimension MS mm : 1,4 Tolerance mm : +-0,2

L18

**MICROSWITCH** 

SET

: 0,8...3,0

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 27,8..31,8

Control lever

position YB mm : 74,0..85,0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.01.95 Test oil : ISO 4113

Part no. : 0 460 484 057 Pump designation : VE4/8F2300R425-3

Customer-spec. information Customer : PSA

Motor : XUD9AL - BVA

#### TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

#### **REMARKS**

### BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3
Tolerance mm : +-0,02
Outlet : A

#### INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.3
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.1
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 30.2
Tolerance
cm3/1000 strokes : 0.5
Spread

cm3/1000 strokes : 2.0 Shutoff solenoid

Volt : 12

# HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 5.0 Tolerance

cm3/1000 strokes : 0.5 Shutoff solenoid

Volt : 12

#### FULL-LOAD SPEED REGULATION

Rated speed rpm : 2650
Del. quantity
cm3/1000 strokes : 11.0
Tolerance

cm3/1000 strokes :

Shutoff solenoid Volt : 12

2.0

STARTING FUEL DELIVERY

Del quantity			∔ Check			
Del. quantity cm3/1000 strokes		55.0	tolerance mm	:	0.7	
Tolerance	•	JJ.0	Shutoff solenoid	•	0.1	
cm3/1000 strokes	:	13.0	Volt	:	12	
Shutoff solenoid			+			
Volt	:	12	+ SUPPLY PUMP PRES	SURE	CHARACTERIST	IC
			† Datad sasad sas		2200	
			+ Rated speed rpm + Supply pomp	:	2200	
LOAD-DEPENDENT ST	ART	OF DELIVERY	pressure bar	•	7.6	
SETTING	,,,,,	o. beere	+ Tolerance hPa	:	0.3	
			+ Shutoff solenoid			
DELIVERY DIFFEREN	CE		+ Volt	:	12	
Dakad amazd was		4050	† Dated around and		500	
Rated speed rpm Del. quantity	÷	1250	+ Rated speed rpm + Supply pomp	:	200	
cm3/1000 strokes	•	-7.0	pressure bar	•	3.0	
Tolerance	•	1.0	+ Tolerance hPa	:	0.3	
cm3/1000 strokes	:	1.0	+ Shutoff solenoid			
Shutoff solenoid			→ Volt	:	12	
Volt	:	12	†			
DDECCHDE DIEFEDEN			+ OVERFLOW QUANTITY	ſ		
PRESSURE DIFFEREN	LE		Rated speed rpm		2200	
Rated speed rpm	:	1250	+ Overflow quantity		2200	
Del. quantity	·	1230	+ ccm/10s	:	97.2	
cm3/1000 strokes	:	-0.2	+ Tolerance			
Tolerance			+ ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	†			
Shutoff solenoid		12	+ Check tolerance + ccm/10s		55.5	
Volt	•	12	+ Shutoff solenoid	•	22.2	
TIMING-DEVICE TRA	VFI	DIFFERENCE	Volt	:	12	
, _,,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•		+			
Rated speed rpm	:	1250	+ Rated speed rpm		500	
Del. quantity			+ Overflow quantity	,	<b>47.0</b>	
cm3/1000 strokes	:	-1.2	+ ccm/10s	:	63.8	
Tolerance cm3/1000 strokes		0.1	+ Tolerance + ccm/10s	:	22.2	
Shutoff solenoid		0.1	I cemi ios	•	<i></i>	
Volt	:	12	+ Check tolerance			
			+ ccm/10s	:	34.7	
<del></del>		<del></del>	+ Shutoff solenoid			
INJECTION-PUMP TE	ST S	SPECIFICATIONS	† Volt	:	12	
TIMING DEVICE CHA	RACT	TERTSTIC	DELIVERY AND BREA	KAWA	Y CHARACTERI	STIC
, m, 12,100 p 4, 12,000 q 1,111			+			
Rated speed rpm	:	2000	+ Rated speed rpm	:	2650	
		7.4	+ Del. quantity	_	11 0	
SV travel mm	:	7.1 0.4	cm3/1000 strokes	:	11.0	
Tolerance mm Check	•	0.4	+ Tolerance + cm3/1000 strokes	•	2.0	
tolerance mm	:	0.7	Check tolerance	•	2.0	
Shutoff solenoid	•	•••	+ cm3/1000s.	:	4.0	
Volt	:	12	+ Shutoff solenoid			
<b>6</b> .4.4		000	+ Volt	:	12	
Rated speed rpm	:	800	Dated around name	:	2500	
SV travel mm	•	0.7	+ Rated speed rpm + Del. quantity	•	2500	
Tolerance mm	:	0.4	cm3/1000 strokes	:	22.5	
	-	= • •	1 200 200 200			

L20

Tolerance			+
cm3/1000 strokes Check tolerance	:	3.0	ELECTR. SHUTOFF
cm3/1000s.	;	5.0	CONTROL LEVER, IDLE STOP
Shutoff solenoid Volt	:	12	Rated speed rpm : 400
Rated speed rpm	:	2900	+ Del. quantity + cm3/1000 strokes : 1.5
Del. quantity cm3/1000 strokes	:	3.0	Tolerance : 1.5
Tolerance cm3/1000 strokes	:	3.0	+ Check tolerance + cm3/1000s. : 1.5
Check tolerance cm3/1000s. Shutoff solenoid	:	3.0	Ŧ
Volt	:	12	<del> </del>
Rated speed rpm Del. quantity	:	2200	Ŧ
cm3/1000 strokes Tolerance	:	33.0	CHECKING LOAD-DEPENDENT
cm3/1000 strokes Check tolerance	:	1.0	+ START OF DELIVERY + DELIVERY DIFFERENCE
cm3/1000s. Shutoff solenoid	:	2.2	Rated speed rpm : 1250
Volt	:	12	+ Del. quantity + cm3/1000 strokes : -8.0
Rated speed rpm Del. quantity	:	500	+ Tolerance + cm3/1000 strokes : 5.0
cm3/1000 strokes Tolerance	:	31.3	+ Check tolerance + cm3/1000s. : 5.0
cm3/1000 strokes Check tolerance	:	1.5	+ Shutoff solenoid
cm3/1000s.	:	3.0	<del>}</del>
Shutoff solenoid Volt	:	12	+ TIMING-DEVICE TRAVEL DIFFERENCE
Rated speed rpm	:	1250	+ Rated speed rpm : 1250 + Del. quantity
Del. quantity cm3/1000 strokes	:	30.2	+ cm3/1000 strokes : -1.2 + Tolerance
Tolerance cm3/1000 strokes	:	0.5	+ cm3/1000 strokes : 0.1 + Check tolerance
Check tolerance cm3/1000s.	:	2.2	+ cm3/1000S. : 0.1 + Shutoff solenoid
Shutoff solenoid Volt	:	12	Volt : 12
		· <del></del>	DELIVERY DIFFERENCE
MECHANICAL SHUTOF	F		Rated speed rpm : 1250 Del. quantity
Rated speed rpm Del. quantity	:	2200	cm3/1000 strokes : 5.0 Tolerance
cm3/1000 strokes Tolerance	:	1.5	cm3/1000 strokes : 3.0 Check tolerance
cm3/1000 strokes Check tolerance	:	1.5	cm3/1000s. : 3.0 Shutoff solenoid
cm3/1000s. Shutoff solenoid	:	1.5	Volt : 12
Volt	:	12	PRESSURE DIFFERENCE

Rated speed rpm : 1250

Supply pomp

pressure bar : -1.5 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

# TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250 Tolerance mm : 0.5

Check

tolerance mm : 0.6

Shutoff solenoid

Volt : 12

# START TRANSITION

Rated speed rpm : 350 Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +0,1
Dimension KF mm : 6,0
Tolerance mm : +0,2

Dimension MS mm : 1,4 Tolerance mm : +0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 33,8..37,8

Control lever

position YB mm : 63,0..77,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.01.95 Edition Test oil : ISO 4113

: 0 460 484 064 Part no. Pump designation: VE4/8F2300R425-5

Customer-spec. information : PSA Customer : XUD9 A-L Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm 0.55 :

0.35 Inlet press. bar : 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar 3 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.7 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 6.0 : Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 4.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2650

Del. quantity cm3/1000 strokes :

11.0

Tolerance

cm3/1000 strokes 2.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

Del. quantity	+ Check
cm3/1000 strokes : 55.0	tolerance mm : 0.7
Tolerance	+ Shutoff solenoid
cm3/1000 strokes : 13.0	+ Volt : 12
Shutoff solenoid	+
Volt : 12	SUPPLY PUMP PRESSURE CHARACTERISTIC
	Rated speed rpm : 2200
	Supply pomp
LOAD-DEPENDENT START OF DELIVERY	+ pressure bar : 8.5
SETTING	+ Tolerance hPa : 0.3
	+ Shutoff solenoid
DELIVERY DIFFERENCE	+ Volt : 12
Rated speed rpm : 1250	Rated speed rpm : 500
Del. quantity	+ Supply pomp
cm3/1000 strokes : -6.0	+ pressure bar : 3.6
Tolerance	+ Tolerance hPa : 0.3
cm3/1000 strokes : 1.0	+ Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	+ OVERFLOW QUANTITY
PRESSURE DIFFERENCE	OVERFLOW QUANTITY
THEODORE DITTERENCE	Rated speed rpm : 2200
Rated speed rpm : 1250	+ Overflow quantity
Del. quantity	+ ccm/10s : 97.2
cm3/1000 strokes : -0.2	+ Tolerance
Tolerance	+ ccm/10s : 41.6
cm3/1000 strokes : 0.1	Charle Astronome
Shutoff solenoid Volt : 12	+ Check tolerance + ccm/10s : 55.5
VO(t : 12	Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	+ Volt : 12
	+
Rated speed rpm : 1250	+ Rated speed rpm : 500
Del. quantity	+ Overflow quantity
cm3/1000 strokes : -1.0	+ ccm/10s : 63.8
Tolerance cm3/1000 strokes : 0.1	+ Tolerance + ccm/10s : 22.2
Shutoff solenoid	
Volt : 12	- Check tolerance
	+ ccm/10s : 34.7
	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 12
TIMING DEVICE CHARACTERISTIC	T DELIVERY AND BREAKAWAY CHARACTERISTIC
	+
Rated speed rpm : 2000	+ Rated speed rpm : 2650
SV travel mm : 7.1	Del. quantity cm3/1000 strokes : 11.0
SV travel mm : 7.1 Tolerance mm : 0.4	Tolerance
Check	- cm3/1000 strokes : 2.0
tolerance mm : 0.7	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. : 4.0
Volt : 12	+ Shutoff solenoid
200	+ Volt : 12
Rated speed rpm : 800	Rated speed rpm : 2500
SV travel mm : 1.6	+ Rated speed rpm : 2500 + Del. quantity
Tolerance mm : 0.4	cm3/1000 strokes : 22.5
1 We re - 11011	· · · · · · · · · · · · · · · · · · ·

<b>-</b> .			1
Tolerance cm3/1000 strokes	:	3.0	‡
Check tolerance	•	-	+
cm3/1000s. Shutoff solenoid	:	5.0	<u> </u>
Volt	:	12	
<b>D</b> 1 1 20 2 1 20 2		2000	CHECKING LOAD-DEPENDENT
Rated speed rpm Del. quantity	:	2900	+ START OF DELIVERY
cm3/1000 strokes	:	3.0	+ DELIVERY DIFFERENCE
Tolerance		7.0	1252
cm3/1000 strokes Check tolerance	:	3.0	+ Rated speed rpm : 1250 + Del. quantity
cm3/1000s.	:	3.0	+ cm3/1000 strokes : -8.5
Shutoff solenoid		12	+ Tolerance
Volt	:	12	+ cm3/1000 strokes : 5.0 + Check tolerance
Rated speed rpm	:	2200	+ cm3/1000s. : 5.0
Del. quantity	_	77 0	+ Shutoff solenoid
cm3/1000 strokes Tolerance	;	33.0	+ Volt : 12
cm3/1000 strokes	:	1.0	TIMING-DEVICE TRAVEL DIFFERENCE
Check tolerance	_	2.2	+ Rated speed rpm : 1250
cm3/1000s. Shutoff solenoid	•	۷.۷	+ Rated speed rpm : 1250 + Del. quantity
Volt	:	12	+ cm3/1000 strokes : -1.0
Data dama adama		500	+ Tolerance + cm3/1000 strokes : 0.1
Rated speed rpm Del. quantity	:	500	+ Check tolerance
cm3/1000 strokes	:	31.3	+ cm3/1000s. : 0.1
Tolerance cm3/1000 strokes		1.5	+ Shutoff solenoid + Volt : 12
Check tolerance	•	1.5	+ Volt : 12
cm3/1000s.	:	3.0	DELIVERY DIFFERENCE
Shutoff solenoid Volt		12	+ Rated speed rpm : 1250
VOLL	•	12	Del. quantity
Rated speed rpm	:	1250	+ cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes		30.2	+ Tolerance + cm3/1000 strokes : 3.0
Tolerance	•	٠٠.٤	+ Check tolerance
cm3/1000 strokes	:	0.5	+ cm3/1000s. : 3.0
Check tolerance cm3/1000s.		2.2	+ Shutoff solenoid + Volt : 12
Shutoff solenoid	•		<del> </del>
Volt	:	12	+ PRESSURE DIFFERENCE
			Rated speed rpm : 1250
			Supply pomp
ELECTR. SHUTOFF			+ pressure bar : −1.5 + Tolerance hPa : 0.3
CONTROL LEVER, ID	LE :	STOP	+ Tolerance hPa : 0.3 + Shutoff solenoid
Rated speed rpm	:	400	+ Volt : 12
Del. quantity			+
cm3/1000 strokes Tolerance	:	1.5	TIMING-DEVICE TRAVEL DIFFERENCE
cm3/1000 strokes	:	1.5	Rated speed rpm : 1250
Check tolerance	-		+ Tolerance mm : 0.5
cm3/1000s.	:	1.5	+ Check
			+ tolerance mm : 0.6

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,4
Tolerance mm : +-0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 28,8..32,8

Control lever

position YB mm : 74,0..85,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 10.11.95 : ISO 4113

Part no.

: 0 460 484 070

Pump designation : VE4/8F2300R425-5

Customer-spec. information

Customer

: PSA

Motor

: XUD9AY/L3 Cit.ZX

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm

0.55

Inlet press. bar :

0.35

Tolerance bar

0.05

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

130

bar Tolerance bar

Test lines

: 1 080 750 073

Outside diameter :

6.00

x inside diameter :

2.00

x length mm

450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3 : +-0,2 Tolerance mm

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

3.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 6.0 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1250 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

2650 Rated speed rpm

Del. quantity

11.0

C.3/1000 strokes : Tolerance

cm3/1000 strokes 2.0

Shutoff solenoid Volt

12

		+			
SET GRADUATED STA	RTING DELIVERY	→ SV travel	mm :	0.8	
CONTROL LEVER, ID	DLE STOP	+ Tolerance	mm :	0.4	
		+ Check			
Rated speed rpm	: 100	+ tolerance	mm :	9.7	
Del. quantity		+ Shutoff so	lenoid		
cm3/1000 strokes	: 47.0	→ Volt	:	12	
Tolerance		+			
cm3/1000 strokes	: 1.0	→ SUPPLY PUM	P PRESSURE	CHARACTERIS	STIC
Shutoff solenoid		+			
Volt	: 12	+ Rated spee		2200	
		+ Supply pom	p		
		+ pressure b	ar :	8.5	
LOAD-DEPENDENT ST	ART OF DELIVERY	+ Tolerance		0.3	
SETTING		+ Shutoff so	lenoid		
		+ Volt	:	12	
DELIVERY DIFFEREN	ICE	+			
		+ Rated speed		500	
Rated speed rpm	: 1250	+ Supply pom			
Del. quantity		+ pressure b		3.6	
cm3/1000 strokes	: -6.0	+ Tolerance I		0.3	
Tolerance		+ Shutoff so	lenoid		
cm3/1000 strokes	: 1.0	+ Volt	:	12	
Shutoff solenoid	4-5	†			
Volt	: 12	+ OVERFLOW QI	JANTITY		
		† _ ,		2222	
PRESSURE DIFFEREN	CE	+ Rated speed		2200	
	4050	+ Overflow qu	uantity	27.0	
Rated speed rpm	: 1250	+ ccm/10s	:	97.2	
Del. quantity	0.0	+ Tolerance			
cm3/1000 strokes	: -0.2	+ ccm/10s	:	41.6	
Tolerance	0.4	†			
cm3/1000 strokes	: 0.1	+ Check tole		FF	
Shutoff solenoid	. 43	+ ccm/10s		55.5	
Volt	: 12	+ Shutoff so		12	
TIMETHO DELITOR TOAL	VEL ATEREDENCE	† Volt	<b>:</b>	12	
TIMING-DEVICE TRA	VEL DIFFERENCE	T Rotal area	d	500	
Detail exect non	: 1250	Rated speed		200	
Rated speed rpm	: 1250	- Overflow qu - ccm/10s	lancity .	63.8	
Del. quantity	: -1.0	Tolerance	•	05.8	
cm3/1000 strokes Tolerance	1.0	ccm/10s	:	22.2	
cm3/1000 strokes	: 0.1	T	•	22.2	
Shytoff solenoid	. 0.1	T Check toler	rance		
Volt	: 12	ccm/10s	•	34.7	
VOCC		Shutoff sol	enoid	54.7	
		- + Volt	,cnora	12	
INJECTION-PUMP TES	ST SPECIFICATIONS	1	•		
2/10/2017/01/2017	01 01 201 10/1/10/10	↓ DELIVERY AN	ND BREAKAW/	Y CHARACTER	ISTIC
TIMING DEVICE CHAP	RACTERISTIC	+			
12.12.10		Rated speed	d rom :	2650	
Rated speed rpm	: 2000	+ Del. quanti		<del>-</del>	
Tolerance mm	: 0.4	+ cm3/1000 st		11.0	
Check		+ Tolerance	· · · · · · ·		
tolerance mm	: 0.7	+ cm3/1000 st	rokes :	2.0	
Shutoff solenoid		+ Check toler			
Volt	: 12	+ cm3/1000s.	:	4.0	
		+ Shutoff sol	.enoid		
Rated speed rpm	: 800	→ Volt	:	12	
•		}			

<b>6</b> . <b>A</b>		2500		I object of a transit
Rated speed rpm Del. quantity	:	2500	•	+ Shutoff solenoid + Volt : 12
cm3/1000 strokes Tolerance	:	22.5	-	
cm3/1000 strokes Check tolerance	:	3.0		ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
cm3/1000s.	:	5.0	-	+ CONTROL LEVER, IDEE STOP
Shutoff solenoid Volt	:	12		Rated speed rpm : 400 Del. quantity
Rated speed rpm	:	2900		cm3/1000 strokes : 1.5 Tolerance
Del. quantity		1.5	-	- cm3/1000 strokes : 1.5 - Check tolerance
cm3/1000 strokes Tolerance			-	+ cm3/1000s. : 1.5
cm3/1000 strokes Check tolerance	:	1.5	-	‡
cm3/1000s. Shutoff solenoid	:	1.5	-	<del>}</del>
Volt	:	12		<u> </u>
Rated speed rpm	:	2200	-	CUECKTAIC LOAD DEDENDENT
Del. quantity cm3/1000 strokes	:	33.0	-	+ CHECKING LOAD-DEPENDENT + START OF DELIVERY
Tolerance cm3/1000 strokes	:	1.0	-	DELIVERY DIFFERENCE
Check tolerance cm3/1000S.	:	2.2	-	+ + Rated speed rpm : 1250
Shutoff solenoid Volt	:	12	<del>-</del>	+
Rated speed rpm	:	500	-	Tolerance : 3.0
Del. quantity	•			† Check tolerance
cm3/1000 strokes Tolerance	:	31.3	]	cm3/1000s. : 3.0 Shutoff solenoid
cm3/1000 strokes	:	1.5	-	Volt : 12
Check tolerance cm3/1000S.	:	3.0	1	TIMING-DEVICE TRAVEL DIFFERENCE
Shutoff solenoid Volt	:	12	1	Rated speed rpm : 1250
Rated speed rpm	:	1250	-	Del. quantity cm3/1000 strokes : -1.0
Del. quantity cm3/1000 strokes	:	30.2	4	+ Tolerance + cm3/1000 strokes : 0.1
Tolerance cm3/1000 strokes	:	0.5	4	+ Check tolerance + cm3/1000s. : 0.1
Check tolerance cm3/1000s.	•	2.2		Shutoff solenoid Volt : 12
Shutoff solenoid	•	12	-	DELIVERY DIFFERENCE
Volt	•	12		<del> </del>
MECHANICAL SHUTOF	F		-	Rated speed rpm : 1250 Del. quantity
Rated speed rpm	:	2200	+	+ cm2/1000 strokes : 5.0 + Tolerance
Del. quantity cm3/1000 strokes		1.5	-	cm3/1000 strokes : 3.0 Check tolerance
Tolerance cm3/1000 strokes		1.5	1	cm3/1000S. : 3.0 Shutoff solenoid
Check tolerance			1	Volt : 12
cm3/1000s.	:	1.5	+	†

Rated speed rpm : 1250

Supply pomp

pressure bar : -1.5 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

## TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250 Tolerance mm : 0.5

Check

tolerance mm : 0.6

Shutoff solenoid

Volt : 12

## EXHAUST-GAS RECIRCULATION

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 21.4

Tolerance

cm3/1000 strokes : 1.0

Check tolerance

cm3/1000S: 4.0

Shutoff solenoid

Volt : 12

#### START TRANSITION

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2

Dimension MS mm : 1,4

Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8..3,0

: ARF 12,0

CONTROL LEVER POSITION

SE

Control lever

position YA mm : 27,8..31,8

Control lever

position YB mm : 74,0..85,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.11.95 : ISO 4113 Test oil

: 0 460 484 092 Part no. Pump designation : VE4/8F2300R425-9

Customer-spec. information

: PSA Customer

: XUD9A-L BVA Motor

Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

: A Outlet |

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.3 Setting mm 0.2 Tolerance mm Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa : 5.1 Tolerance hPa 0.3 : Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

2.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Valt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2650

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

M03

STARTING FUEL DELIVERY	+
	+ SV travel mm : 0.7
Rated speed rpm : 100	+ Tolerance mm : 0.4
Del. quantity	+ Check
cm3/1000 strokes : 55.0	tolerance mm : 0.7
Tolerance	+ Shutoff solenoid
cm3/1000 strokes : 13.0	+ Volt : 12
Shutoff solenoid Volt : 12	CHOOL V DUMD DOCCCUDE CHARACTERICTIC
Volt : 12	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
	Rated speed rpm : 2200
	+ Supply pomp
LOAD-DEPENDENT START OF DELIVERY	pressure bar : 7.6
SETTING	+ Tolerance hPa : 0.3
	+ Shutoff solenoid
DELIVERY DIFFERENCE	+ Volt : 12
	+
Rated speed rpm : 1250	+ Rated speed rpm : 500
Del. quantity	+ Supply pomp
cm3/1000 strokes : -7.0	+ pressure bar : 3.0
Tolerance cm3/1000 strokes : 1.0	+ Tolerance hPa : 0.3 + Shutoff solenoid
Shutoff solenoid	+ Volt : 12
Volt : 12	I vott
. , , ,	- OVERFLOW QUANTITY
PRESSURE DIFFERENCE	+
	+ Rated speed rpm : 2200
Rated speed rpm : 1250	+ Overflow quantity
Del. quantity	+ ccm/10s : 97.2
cm3/1000 strokes : -0.2	+ Tolerance
Tolerance	+ ccm/10s : 41.6
cm3/1000 strokes : 0.1	Charle to Lamoure
Shutoff solenoid Volt : 12	+ Check tolerance + ccm/10s : 55.5
Volt : 12	Shutoff solenoid
TIMING-DEVICE TRAVEL DIFFERENCE	Volt : 12
ITITING PEATOR HIMARE PILLEWEIGE	1
Rated speed rpm : 1250	+ Rated speed rpm : 500
Del. quantity	+ Overflow quantity
cm3/1000 strokes : -1.2	+ ccm/10s : 63.8
Tolerance	+ Tolerance
cm3/1000 strokes : 0.1	+ ccm/10s : 22.2
Shutoff solenoid Volt : 12	Check tolerance
Volt : 12	+ ccm/10s : 34.7
	Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATIONS	+ Volt : 12
	+
TIMING DEVICE CHARACTERISTIC	+ DELIVERY AND BREAKAWAY CHARACTERISTIC
2000	7 2 4 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4
Rated speed rpm : 2000	Rated speed rpm : 2650
SV travel mm : 7.1	+ Del. quantity + cm3/1000 strokes : 11.0
SV travel mm : 7.1 Tolerance mm : 0.4	+ Tolerance
Check	+ cm3/1000 strokes : 2.0
tolerance mm : 0.7	+ Check tolerance
Shutoff solenoid	+ cm3/1000s. : 4.0
Volt : 12	+ Shutoff solenoid
	+ Volt : 12
Rated speed rpm : 800	+

Rated speed rpm	•	2500	+ Shutoff solenoid
	•	2000	+ Volt : 12
Del. quantity		22.5	7 VOLL : 12
cm3/1000 strokes	:	22.5	†
Tolerance			+
cm3/1000 strokes	•	3.0	↓ ELECTR. SHUTOFF
	•	5.0	
Check tolerance			CONTROL LEVER, IDLE STOP
cm3/1000S.	:	5.0	+
Shutoff solenoid			Rated speed rpm : 400
		40	
Volt	:	12	+ Del. quantity
			+ cm3/1000 strokes : 1.5
Rated speed rpm	:	2900	+ Tolerance
	•	2700	cm3/1000 strokes : 1.5
Del. quantity			
cm3/1000 strokes	:	3.0	+ Check tolerance
Tolerance			+ cm3/1000s. : 1.5
cm3/1000 strokes	:	3.0	1
	•	5.0	T
Check tolerance			FULL-LOAD STOP CONTROL LEVER
cm3/1000S.	:	3.0	4
Shutoff solenoid	•		Rated speed rpm : 400
		40	· · · · · · · · · · · · · · · · · · ·
Volt	:	12	+ Del. quantity
			+ cm3/1000 strokes : 1.5
Rated speed rpm	:	2200	+ Tolerance
	•	LLOO	•
Del. quantity			+ cm3/1000 strokes : 1.5
cm3/1000 strokes	:	33.0	+ Check tolerance
Tolerance			+ cm3/1000s. : 1.5
cm3/1000 strokes	_	1.0	(
	•	1.0	7
Check tolerance			+
cm3/1000s.	•	2.2	<del> </del>
Shutoff solenoid	•		
			T
Volt	:	12	+
			<u> </u>
Rated speed rpm	:	500	→ CHECKING LOAD-DEPENDENT
	•	200	•
Del. quantity			+ START OF DELIVERY
cm3/1000 strokes	:	31.3	<del>+</del>
Tolerance			→ DELIVERY DIFFERENCE
		A -	T DECIVERY DITTERCIAL
cm3/1000 strokes	:	1.5	<b>†</b>
Check tolerance			→ Rated speed rpm : 1250
cm3/1000s.	•	3.0	+ Del. quantity
	•	3.0	, occi quariere,
Chushadd malasadal			-9.0
Shutoff solenoid			+ cm3/1000 strokes : −8.0
Shutoff solenoid Volt	:	12	+ cm3/1000 strokes : -8.0 + Tolerance
	:	12	† Tolerance
Volt	:		Tolerance cm3/1000 strokes : 5.0
Volt Rated speed rpm	:		Tolerance cm3/1000 strokes : 5.0 Check tolerance
Volt Rated speed rpm Del. quantity		1250	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0
Volt Rated speed rpm Del. quantity		1250	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Volt Rated speed rpm Del. quantity cm3/1000 strokes		1250	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid
Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1250 30.2	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1250	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12
Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	:	1250 30.2 0.5	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	•	1250 30.2 0.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	•	1250 30.2	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12 TIMING-DEVICE TRAVEL DIFFERENCE
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	•	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1250
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	•	1250 30.2 0.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm: 1250 Del. quantity
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	•	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm: 1250 Del. quantity
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	•	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.2 Tolerance
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1
Volt  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	1250 30.2 0.5 2.2	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : -1.2 Tolerance
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : :	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm	: : :	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity	: : :	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1 Shutoff solenoid
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm	: : :	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes	: : :	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1 Shutoff solenoid
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : F	1250 30.2 0.5 2.2 12 2200 1.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1 Shutoff solenoid Volt: 12
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : F	1250 30.2 0.5 2.2 12	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1 Shutoff solenoid
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : F	1250 30.2 0.5 2.2 12 2200 1.5 1.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000S. : 5.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000S. : 0.1 Shutoff solenoid Volt : 12  DELIVERY DIFFERENCE
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : :	1250 30.2 0.5 2.2 12 2200 1.5 1.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm : 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s. : 0.1 Shutoff solenoid Volt : 12  DELIVERY DIFFERENCE
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  MECHANICAL SHUTOF Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : F	1250 30.2 0.5 2.2 12 2200 1.5 1.5	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 5.0 Shutoff solenoid Volt: 12  TIMING-DEVICE TRAVEL DIFFERENCE  Rated speed rpm: 1250 Del. quantity cm3/1000 strokes: -1.2 Tolerance cm3/1000 strokes: 0.1 Check tolerance cm3/1000s.: 0.1 Shutoff solenoid Volt: 12

Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt PRESSURE DIFFERENCE

1250 Rated speed rpm amoa ylaau2 -1.5pressure bar Tolerance hPa 0.3 Shutoff solenoid 12 Volt

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250 0.5 Tolerance mm Check tolerance mm 0.6 Shutoff solenoid Volt 12

EXHAUST-GAS RECIRCULATION

Del. quantity cm3/1000 strokes : 10.7

START TRANSITION

Rated speed rpa 350 Del. quantity cm3/1000 strokes : 30.0 Tolerance

cm3/1000 strokes : 10.0 Shutoff solenoid

12 Volt

225 Rated speed rpm Del. quantity cm3/1000 strokes : 54.0

Tolerance 17.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 : +-0,2 Tolerance mm Dimension MS mm : 1,4

Tolerance mm : +-0,2

**MICROSWITCH** SET.

: 0,8...3,0 mm : 10,7

CONTROL LEVER POSITION SET

Control lever

position YA mm : 33,8..37,8

Control lever

position YB mm : 63,0..77,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 10.11.95

Test oil

: ISO 4113

Part no.

: 0 460 484 093

Pump designation : VE4/8F2300R425-

Customer-spec. information

Customer

: PSA

Motor

: XUD9AY-L3 Cit.ZX

Power KW

51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance \*C

45

0.55

Overflow

restriction mm

Inlet press. bar :

Tolerance bar

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

130

Tolerance bar

Test lines

: 1 680 750 073

6.00

x inside diameter :

Outside diameter :

2.00

x length mm

450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

MO7

Plunger stroke mm: 0,3 Tolerance mm : +-0.02

Outlet

: A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

3.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250 :

Setting hPa 6.0 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1250

Rated speed rpm :

Del. quantity

cm3/1000 strokes : 30.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

500 Rated speed rpm

Del. quantity

cm3/1000 strokes :

5.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt

12

FULL-LOAD SPEED REGULATION

Rated speed rpm

Del. quantity

cm3/1000 strokes :

11.0

Tolerance

Volt

cm3/1000 strokes :

2.0

Shutoff solenoid

12

		+		
SET GRADUATED STA	ARTING DELIVERY	+ sv	/ travel mm	: 0.8
CONTROL LEVER, ID			lerance mm	: 0.4
			neck	
Rated speed rpm	: 100		olerance mm	: 0.7
Del. quantity	. ,55		nutoff solenoid	•
cm3/1000 strokes	: 47.0		olt	: 12
Tolerance		1 ~		
cm3/1000 strokes	: 1.0	1 51	IPPLY PLIMP PRESSI	URE CHARACTERISTIC
Shutoff solenoid		1	77. 27. 70111 7.112001	ONE CHARACTERIOTIC
Volt	: 12	↓ Ra	ited speed rpm	: 2200
•000	• 12		upply pomp	. 2200
			essure bar	: 8.5
LOAD-DEPENDENT ST	TART OF DELIVERY		lerance hPa	: 0.3
SETTING	ANT OF DELIVERY		utoff solenoid	. 0.3
02111110			olt	: 12
DELIVERY DIFFEREN	ice		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• ''
DELIVERY DIFFEREN	40 L	I pa	ited speed rpm	: 500
Rated speed rpm	: 1250		ibbly bomb	. 500
Del. quantity	. 1250		ressure bar	: 3.6
cm3/1000 strokes	: -6.0	, ,	lerance hPa	: 0.3
Tolerance	. 0.0	-	utoff solenoid	. 0.5
cm3/1000 strokes	: 1.0		olt	: 12
Shutoff solenoid	. 1.0	I		. 12
Volt	: 12	I ov	ERFLOW QUANTITY	
VOCE	. 12	I	CKIEOM GOVIAITIE	
PRESSURE DIFFEREN	ICE	I Pa	ted speed rpm	: 2200
TRESSORE DITTEREN			erflow quantity	
Rated speed rpm	: 1250		m/10s	: 97.2
Del. quantity	. 1250	· ·	lerance	. 77.2
cm3/1000 strokes	: -0.2		m/10s	: 41.6
Tolerance	. 0.2	I	1117 103	. 41.0
cm3/1000 strokes	: 0.1	Ich	eck tolerance	
Shutoff solenoid	. 0.1		m/10s	: 55.5
Volt	: 12		utoff solenoid	. 33.3
VOCC	• 12		it	: 12
TIMING-DEVICE TRA	WEL DIFFERENCE	1		. ,,,
TIMING DEVICE TRA	IVEE DITTERENCE	I Pa	ted speed rpm	: 500
Rated speed rpm	: 1250		erflow quantity	. 566
Del. quantity	. (2)0		m/10s	: 63.8
cm3/1000 strokes	: -1.0		lerance	. 03.0
Tolerance			m/10s	: 22.2
cm3/1000 strokes	: 0.1	1	100	
Shutoff solenoid	• • • • • • • • • • • • • • • • • • • •	↓ ch	eck tolerance	
Volt	: 12		m/10s	: 34.7
			utoff solenoid	
		- + vo		: 12
THUESTION-PUMP TE	ST SPECIFICATIONS	1	•	
2.1020120111011111111111111111111111111		→ DE	LIVERY AND BREAK	AWAY CHARACTERISTIC
TIMING DEVICE CHA	RACTERISTIC	1		
		→ Ra	ted speed rpm	: 2650
Rated speed rpm	: 2000		l. quantity	
Tolerance mm	: 0.4		3/1000 strokes	: 11.0
Check			lerance	
tolerance mm	: 0.7		3/1000 strokes	: 2.0
Shutoff solenoid		+ Ch	eck tolerance	
Volt	: 12	+ cm	3/1000s.	: 4.0
		+ Shi	utoff solenoid	
Rated speed rpm	: 800	+ vo		: 12
• • • • •		+		
		•		

Rated speed rpm Del. quantity			+ Shutoff solenoid + Volt : 12	
cm3/1000 strokes Tolerance	:	22.5	İ	
cm3/1000 strokes Check tolerance	:	3.0	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP	
cm3/1000s.	:	5.0	+	
Shutoff solenoid Volt	:	12	Rated speed rpm : 400  Del. quantity	
Rated speed rpm	;	2900	cm3/1000 strokes : 1.5 Tolerance	
Del. quantity cm3/1000 strokes	:	1.5	+ cm3/1000 strokes : 1.5 + Check tolerance	
Tolerance cm3/1000 strokes Check tolerance	:	1.5	+ cm3/1000s. : 1.5	
cm3/1000s. Shutoff solenoid	:	1.5	Ŧ	
Volt	:	12	<del>-</del>	
Rated speed rpm	:	2200		
Del. quantity cm3/1000 strokes	:	33.0	+ CHECKING LOAD-DEPENDENT + START OF DELIVERY	
Tolerance cm3/1000 strokes Check tolerance	:	1.0	DELIVERY DIFFERENCE	
cm3/1000S. Shutoff solenoid	:	2.2	Rated speed rpm : 1250 Del. quantity	
Volt	:	12	cm3/1000 strokes : -7.0 Tolerance	
Rated speed rpm	:	500	cm3/1000 strokes : 3.0 Check tolerance	
Del. quantity cm3/1000 strokes	:	31.3	+ cm3/1000s. : 3.0	
Tolerance cm3/1000 strokes Check tolerance	:	1.5	+ Shutoff solenoid + Volt : 12	
cm3/1000s. Shutoff solenoid	:	3.0	TIMING-DEVICE TRAVEL DIFFERENCE	
Volt	:	12	Rated speed rpm : 1250 Del. quantity	
Rated speed rpm	:	1250	cm3/1000 strokes : -1.0  Tolerance	
Del. quantity cm3/1000 strokes	:	30.2	cm3/1000 strokes : 0.1 Check tolerance	
Tolerance cm3/1000 strokes	:	0.5	+ cm3/1000s. : 0.1	
Check tolerance cm3/1000s.	:	2.2	+ Shutoff solenoid + Volt : 12	
Shutoff solenoid Volt	:	12	DELIVERY DIFFERENCE	
MECHANICAL SHUTOF			Del. quantity cm3/1000 strokes : 5.0	
Rated speed rpm Del. quantity			+ Tolerance + cm3/1000 strokes : 3.0	
cm3/1000 strokes Tolerance			+ Check tolerance + cm3/1000S. : 3.0	
cm3/1000 strokes Check tolerance	:	1.5	+ Shutoff solenoid + Volt : 12	
cm3/1000s.	:	1.5	+	

Rated speed rpm : 1250

Supply pomp

pressure bar : -1.5 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

# TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1250 Tolerance mm : 0.5

Check

tolerance mm : 0.6

Shutoff solenoid

Volt : 12

## EXHAUST-GAS RECIRCULATION

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 21.4

Tolerance

cm3/1000 strokes : 1.0

Check tolerance

cm3/1000s. : 4.0

Shutoff solenoid

Volt : 12

# START TRANSITION

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

Rated speed rpm : 225

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt : 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1

Tolerance mm : +-U, Dimension KF mm : 6,0

Tolerance mm : +0,2

Dimension MS mm : 1,4

Tolerance mm : +-0,2

M10

**MICROSWITCH** 

SET

mm : 0,8...3,0

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 27,8..31,8

Control lever

position YB mm : 74,0..85,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.10.93 Edition : ISO 4113 Test oil

: 0 460 494 279 Part no. Pump designation: VE4/9F2300R426

Customer-spec. information

: PSA Customer

: XUD 9/Y-N2 (1.9L Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

: B Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 4.2 Tolerance mm 0.2 :

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 5.2 Tolerance hPa 0.3 : Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 28.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 2440

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

N. 1			2				
Del. quantity cm3/1000 strokes		59.0	†	Check		0.7	
Tolerance	•	37.0	Ī	tolerance mm Shutoff solenoid	:	0.7	
cm3/1000 strokes		15.0	I	Volt		12	
Shutoff solenoid	•	17.0	I	VOCC	•	12	
Volt	:	12	I	SUPPLY PUMP PRESS	LIRE	CHARACTE	RISTIC
	-		1		•		
			1	Rated speed rpm	:	2250	
			+	Supply pomp			
LOAD-DEPENDENT ST	TART	OF DELIVERY	+	pressure bar	:	7.9	
SETTING			+	Tolerance hPa	:	0.3	
			+	Shutoff solenoid			
DELIVERY DIFFEREN	1CE		+	Volt	:	12	
Data dama and ama		1250	†	0-4-44	_	500	
Rated speed rpm	:	1250	†	Rated speed rpm	:	500	
Del. quantity cm3/1000 strokes		<del>-</del> 5,5	Ť	Supply pomp		3.1	
Tolerance	•	-5.5	I	pressure bar Tolerance hPa	•	0.3	
cm3/1000 strokes		1.0	I	Shutoff solenoid	•	0.5	
Shutoff solenoid	•	1.0	I	Volt		12	
Volt	:	12	I		•	1,5	
1011	•	12	1	OVERFLOW QUANTITY			
PRESSURE DIFFEREN	ICE		+				
			+	Rated speed rpm	:	2250	
Rated speed rpm	:	1250	+	Overflow quantity			
Del. quantity			+	ccm/10s	:	97.2	
cm3/1000 strokes	:	-0.2	+	Tolerance			
Tolerance			+	ccm/10s	:	41.6	
cm3/1000 strokes	:	0.1	+				
Shutoff solenoid		40	†	Check tolerance		55 F	
Volt	:	12	†	ccm/10s	:	55.5	
TIMING-DEVICE TRA	VEL	DIEEEDENCE	<b>†</b>	Shutoff solenoid Volt	:	12	
I THITING DEVICE INV	IVEL	DIFFERENCE	I	VOCE	•	12	
Rated speed rpm	:	1250	1	Rated speed rpm	:	500	
Del. quantity			1	Overflow quantity			
cm3/1000 strokes	:	-0.8	+	ccm/10s	:	62.5	
Tolerance			+	Tolerance			
cm3/1000 strokes		0.1	+	ccm/10s	:	20.8	
Shutoff solenoid			+				
Volt	:	12	†	Check tolerance		<b>-</b>	
			†	ccm/10s	:	34.7	
THIS TON DUMP TO	CT	COECTETCATIONS	<del>-</del> †	Shutoff solenoid	_	12	
INJECTION-PUMP TE	51	SPECIFICATIONS	Ī	Volt	•	12	
TIMING DEVICE CHA	RAC	TERISTIC	+	DELIVERY AND BREAK	KAWA	Y CHARACT	ERISTIC
Rated speed rpm		2000	I	Rated speed rpm	:	2440	
Mateu speed / piii	•	2000	1	Del. quantity	•	C++0	
SV travel mm	:	8.0	1	cm3/1000 strokes	:	23.0	
Tolerance mm	:	0.4	1	Tolerance			
Check			+	cm3/1000 strokes	:	2.0	
tolerance mm	:	0.7	+	Check tolerance			
Shutoff solenoid			+	cm3/1000s.	:	4.0	
Volt	:	12	+	Shutoff solenoid			
			+	Volt	:	12	
Rated speed rpm	:	800	†	<b>5</b>		35/6	
		4.0	†	Rated speed rpm	:	2540	
SV travel mm	:	1.9	†	Del. quantity		47.0	
Tolerance mm	:	0.4	+	cm3/1000 strokes	•	13.0	

Check tolerance	5.0	+	
cm3/1000s. Shutoff solenoid	: 5.0	‡	
Volt	: 12	CHECKTAIC LOAD DE	DENDENT
Rated speed rpm Del. quantity	: 2750	+ CHECKING LOAD-DE + START OF DELIVER	
cm3/1000 strokes Tolerance	: 3.0	T DELIVERY DIFFERE	NCE
cm3/1000 strokes Check tolerance	: 3.0	Rated speed rpm Del. quantity	: 1250
cm3/1000s. Shutoff solenoid	: 3.0	cm3/1000 strokes	: -8.0
Volt	: 12	cm3/1000 strokes Check tolerance	2.0
Rated speed rpm Del. quantity	: 2250	cm3/1000s.  Shutoff solenoid	: 5.0
cm3/1000 strokes Tolerance	: 31.0	Volt	: 12
cm3/1000 strokes Check tolerance	: 1.0	TIMING-DEVICE TR	AVEL DIFFERENCE
cm3/1000s. Shutoff solenoid	: 2.2	+ Rated speed rpm + Del. quantity	: 1250
Volt	: 12	cm3/1000 strokes Tolerance	: -0.8
Rated speed rpm Del. quantity	: 500	cm3/1000 strokes Check tolerance	
cm3/1000 strokes Tolerance	: 30.0	cm3/1000s. Shutoff solenoid	: 0.1
cm3/1000 strokes Check tolerance	: 1.5	† Volt	: 12
cm3/1000s. Shutoff solenoid	: 3.0	+ DELIVERY DIFFERE	
Volt	: 12	+ Rated speed rpm + Del. quantity	
Rated speed rom Del. quantity		+ cm3/1000 strokes + Tolerance	
cm3/1000 strokes Tolerance		cm3/1000 strokes Check tolerance	
cm3/1000 strokes Check tolerance	: 0.5	+ cm3/1000s. + Shutoff solenoid	
cm3/1000S. Shutoff solenoid	: 2.2	† Volt	: 12
Volt	: 12	PRESSURE DIFFERE	NCE
		Rated speed rpm Supply pomp	: 1250
ELECTR. SHUTOFF	E CTOD	+ pressure bar + Tolerance hPa	: -0.8
CONTROL LEVER, ID		+ Shutoff solenoid	
Rated speed rpm Del. quantity	: 375	+ Volt	: 12
cm3/1000 strokes Tolerance	: 1.5	+ TIMING-DEVICE TR	AVEL DIFFERENCE
cm3/1000 strokes	: 1.5	Rated speed rpm	
Check tolerance cm3/1000S.	: 1.5	+ Tolerance mm - Check	
		+ tolerance mm + Shutoff solenoid	
		+ Volt	: 12

# EXHAUST-GAS RECIRCULATION

Rated speed rpm 1125

Del. quantity cm3/1000 strokes : 18.0

Tolerance

cm3/1000 strokes : 1.0

Check tolerance

cm3/1000s. 4.0

Shutoff solenoid

12 Volt

Del. quantity

cm3/1000 strokes : 10.8

START TRANSITION

350 Rated speed rpm

Del. quantity

cm3/1000 strokes : 25.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

225 Rated speed rpm

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

cm3/1000 strokes : 17.0

Shutoff solenoid

Volt 12

# ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 : +-0,1 Tolerance mm Dimension KF mm : 5,8 Tolerance mm : +-0,2

Dimension MS mm : 1,4

Tolerance mm : +-0,2

#### **MICROSWITCH**

SET

: 1=ARF 8,0

: 2=ARF 10,8

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 18,8..22,8

Control lever

position YB mm : 82,0..96.0

End of test-specification sheet

M14

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.01.94 Edition : ISO 4113 Test oil

Part no. : 0 460 494 342 Pump designation: VE4/9F2250R445-2

Customer-spec. information

: PSA Customer

: XUD 9 TE-L, TF-L Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

Outlet : A INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250 Aneroid pressure

hPa 1000

Setting mm 3.6 Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250 Aneroid pressure

1000 hPa

Setting hPa 5.6 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure

1000

Del. quantity cm3/1000 strokes : 54.0

Tolerance cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.

3.0 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity cm3/1000 strokes : 37.0

Tolerance cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt Check tolerance

cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Del. quantity	+	Shutoff solenoid		
cm3/1000 strokes :	8.5	Volt	:	12
Tolerance	+			
	0.5	TIMING-DEVICE TRA	VEL	DIFFERENCE
Shutoff solenoid	12	Data damas dama		4250
Volt :	12	Rated speed rpm	:	1250
FULL-LOAD SPEED REGULATI	Ton T	Del. quantity cm3/1000 strokes		-1.0
POLL-LUAD SFEED REGULATI	I	Tolerance	•	1.0
Rated speed rpm : 25	575	cm3/1000 strokes	•	0.1
Pressure hPa :	1000	Shutoff solenoid	•	
Del. quantity	1	Volt	:	12
	14.0			
Tolerance	<del>}</del>	<del></del>		
	2.0	INJECTION-PUMP TE	ST S	SPECIFICATIONS
Shutoff solenoid	+			
Volt :	12	TIMING DEVICE CHA	RAC	TERISTIC
CTARTING FUEL DELTHERY	†	Dakad awaad waa	_	2000
STARTING FUEL DELIVERY	†	Rated speed rpm	:	2000
Datad amond non 1	50	Aneroid pressure hPa		1000
Rated speed rpm : 1 Del. quantity	1	nra	:	1500
	52.0	SV travel mm		6.5
Tolerance	I	Tolerance mm	•	0.4
	15.0	Check	•	<b>9.</b> 4
Shutoff solenoid	1	tolerance mm	:	0.7
Volt :	12	Shutoff solenoid	•	
	+	Volt	:	12
SET GRADUATED STARTING D	ELIVERY +			
CONTROL LEVER, IDLE STOP	· +	Rated speed rpm	:	750
	+	Aneroid pressure		
	·00 +	hPa	:	1000
Del. quantity	+			
	53.0 +	SV travel mm	:	1.5
Tolerance	+	Tolerance mm	:	0.4
cm3/1000 strokes :	3.0 +	Check		0.7
Shutoff solenoid	12	tolerance mm	:	0.7
Volt :	12 +	Shutoff solenoid		10
	†	Volt	•	12
LOAD-DEPENDENT START OF	DEL TUEDY I	SUPPLY PUMP PRESSI	ωE.	CHAPACTEDISTIC
SETTING	I	SOFTET TOTAL TRESS.	OIL	CHARACIERISTIC
OL 11111G	1	Rated speed rpm	:	2000
DELIVERY DIFFERENCE	1	Aneroid pressure	•	
	+	hPa	:	1000
Rated speed rpm : 12	50	Supply pomp		
Del. quantity	+	pressure bar	:	7.5
	10.0	Tolerance hPa	:	0.3
Tolerance	+	Shutoff solenoid		
cm3/1000 strokes :	1.0	Volt	:	12
Shutoff solenoid	+			
Volt :	12 +	Rated speed rpm	:	750
	†	Aneroid pressure	_	4000
PRESSURE DIFFERENCE	†	hPa	:	1000
D. A. al	<sub>50</sub> †	Supply pomp		4.3
Rated speed rpm : 12	7	pressure bar Tolerance hPa	•	4.3 0.3
Del. quantity cm3/1000 strokes :	-0.2	Shutoff solenoid	•	0.5
Tolerance	Ī	Volt	•	12
cm3/1000 strokes :	0.1	1000	•	, ,
CHID/ TOOD SET ONES .	T			

			ı	<b>+</b> 1		
OVERFLOW QUANTITY			Ī	Tolerance cm3/1000 strokes	:	3.0
OVER CON COMMITTE			+	Check tolerance	•	
Rated speed rpm	:	2150	+	cm3/1000s.	:	3.0
Aneroid pressure hPa		1000	1	Shutoff solenoid Volt		12
Overflow quantity	•	, 000	+	7000	•	,-
ccm/10s	:	97.2	+	Rated speed rpm	:	750
Tolerance ccm/10s	•	41.6	Ī	Aneroid pressure hPa		350
CCIII/ TOS	•	71.0	1	Del. quantity	•	330
Check tolerance			+	cm3/1000 strokes	:	46.0
ccm/10s Shutoff solenoid	:	41.6	İ	Tolerance cm3/1000 strokes	:	0.5
Volt	:	12	+	Check tolerance	•	
		500	+	cm3/1000s.	:	3.0
Rated speed rpm Aneroid pressure	:	500	1	Shutoff solenoid Volt		12
hPa	:	1000	1	VOCC	•	,,
Overflow quantity		<b>(5.5</b>	+	Rated speed rpm	:	2150
ccm/10s Tolerance	:	62.5	1	Aneroid pressure hPa		1000
ccm/10s	:	20.8	+	Del. quantity	•	
Obsali Aslamania			†	cm3/1000 strokes	:	50.1
Check tolerance ccm/10s	:	20.8	Ī	Tolerance cm3/1000 strokes	:	1.0
Shutoff solenoid	Ī		+	Check tolerance		
Volt	:	12	†	cm3/1000s. Shutoff solenoid	:	2.2
DELIVERY AND BREA	KAWA	Y CHARACT	RISTIC T	Volt	:	12
•			+			
Rated speed rpm Aneroid pressure	:	2575	1	Rated speed rpm Aneroid pressure	:	2000
hPa	:	1000	<u> </u>	hPa	:	1000
Del. quantity		4/ 0	+	Del. quantity		50 <b>0</b>
cm3/1000 strokes Tolerance	:	14.0	1	cm3/1000 strokes Tolerance	:	52.0
cm3/1000 strokes	:	2.0	1	cm3/1000 strokes	:	1.0
Check tolerance		/ 0	†	Check tolerance		2.2
cm3/1000s. Shutoff solenoid	:	4.0	I	cm3/1000s. Shutoff solenoid	•	۷.۲
Volt	:	12	+	Volt	:	12
Rated speed rpm		2375	†	Rated speed rpm	:	500
Aneroid pressure	:	2313	Ţ	Aneroid pressure	•	200
hPa	:	1000	+	hPa	:	1000
Del. quantity cm3/1000 strokes	:	39.0	İ	Del. quantity cm3/1000 strokes	:	48.3
Tolerance	•	37.0	1	Tolerance	•	
cm3/1000 strokes	:	5.0	+	cm3/1000 strokes	:	1.5
Check tolerance cm3/1000s.	•	6.0	1	Check tolerance cm3/1000s.	:	3.0
Shutoff solenoid	•		+	Shutoff solenoid		
Volt	:	12	1	Volt	:	12
Rated speed rpm	:	2750	Į	Rated speed rpm	:	1250
Aneroid pressure			†	Aneroid pressure		4000
DUA	_	4000				
hPa Del. quantity	:	1000	I	hPa Del. quantity	:	1000
Del. quantity cm3/1000 strokes	:	1000 3.0	Ī	nPa Del. quantity cm3/1000 strokes	:	54.0

Tolerance	<b>.</b> .	+	Tolerance	•
cm3/1000 strokes	: 0.5	†	cm3/1000 strokes	: 0.1
Check tolerance	2.2	†	Check tolerance	2.4
cm3/1000s.	: 2.2	†	cm3/1000S.	: 0.1
Shutoff solenoid		†	Shutoff solenoid	
Volt	: 12	+	Volt	: 12
		+		
••••••		+	DELIVERY DIFFEREN	ICE
MECHANICAL SHUTOF	F	†		4055
	2000	†	Rated speed rpm	: 1250
Rated speed rpm	: 2000	†	Del. quantity	
Aneroid pressure	4000	†	cm3/1000 strokes	: 5.0
hPa	: 1000	†	Tolerance	7.0
Del. quantity	. A F	†	cm3/1000 strokes	: 3.0
cm3/1000 strokes	: 1.5	†	Check tolerance	. 7.0
Tolerance	. 4 5	+	cm3/1000s.	: 3.0
cm3/1000 strokes	: 1.5	+	Shutoff solenoid	4.0
Check tolerance	4 5	+	Volt	: 12
cm3/1000s.	: 1.5	+		
Shutoff solenoid		+	PRESSURE DIFFEREN	CE
Volt	: 12	+		
		+	Rated speed rpm	: 1250
		+	Supply pomp	_
ELECTR. SHUTOFF		+	pressure bar	: -1.1
CONTROL LEVER, ID	DLE STOP	+	Tolerance hPa	: 0.2
		+	Shutoff solenoid	
lated speed rpm	: 400	+	Volt	: 12
el. quantity		+		
:m3/1000 strokes	: 1.5	+	TIMING-DEVICE TRA	VEL DIFFERENCE
olerance		+		
m3/1000 strokes	: 1.5		Rated speed rpm	: 1250
heck tolerance			Tolerance mm	: 0.2
m3/1000S.	: 1.5	•	Check	
			tolerance mm	: 0.7
		· ·	Shutoff solenoid	• -
		+	Volt	: 12
		+		
		†	CTART TRANSPORTE	
		_	START TRANSITION	
PUECKTAIC LOAN NED	CHINENT		Dated speed	: 380
CHECKING LOAD-DEP START OF DELIVERY			Rated speed rpm	: 380
HAKE OF DELIVERY		†	Del. quantity	. 35.0
EI TUEDY NICERNEY	105		cm3/1000 strokes	: 35.0
ELIVERY DIFFEREN	ILE		Tolerance	. 10.0
seal seasal	. 1250		cm3/1000 strokes	: 10.0
ated speed rpm	: 1250		Shutoff solenoid	. 12
el. quantity	. 47.0	†	Volt	: 12
m3/1000 strokes	: -13.0	†		
olerance	2.0	†		
m3/1000 strokes	: 2.0	†	ACCEMPLY AND ACTIO	OTMENT CAMENCALIC
heck tolerance		†	ASSEMBLY AND ADJUS	SIMENT DIMENSIONS
m3/1000s.	: 5.0	†	K	7 7
hutoff solenoid	4.0		Dimension K mm	: 3,3
olt	: 12		Tolerance mm	
			Dimension KF mm	
IMING-DEVICE TRA	VEL DIFFERENCE		Tolerance mm	: +-0,2
			Dimension MS mm	
ated speed rpm	: 1250	+	Tolerance mm	: +-0,2
el. quantity		+		
m3/1000 strokes	: -1.0	+		
		•		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.06.94 Edition : ISO 4113 Test oil

: 0 460 494 370 Part no. Pump designation: VE4/9F2250R445-7

Customer-spec. information

: PSA Customer

Motor : XUD 9 TE-L; P.306

TEST BENCH REQUIREMENTS

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 450 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1500

Aneroid pressure

hPa 1000

4.1 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Aneroid pressure

hPa 1000

Setting hPa 5.7 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

1250 Rated speed rpm

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 54.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s.3.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity cm3/1000 strokes :

37.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s.3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm

Nal supplet		1
Del. quantity	: 8.5	SV travel mm : 1.2
cm3/1000 strokes	: 0.3	-
Tolerance	; 0,5	
cm3/1000 strokes	; 0.3	+ Check + tolerance mm : 0.7
Shutoff solenoid	: 12	
Volt	: 12	+ Shutoff solenoid
5111 1 1 0 1 5 0 5 5 5 5 5 5 5 5 5 5 5 5	SOUR ATTOM	+ Volt : 12
FULL-LOAD SPEED R	REGULATION	CHINDLY DUMP DESCRIPE CHARACTERICTIC
Dahad spend con	. 2575	SUPPLY PUMP PRESSURE CHARACTERISTIC
Rated speed rpm	: 2575	Detect aread area. 2000
Pressure hPa	: 1000	Rated speed rpm : 2000
Del. quantity	47.0	Aneroid pressure
cm3/1000 strokes	: 14.0	+ hPa : 1000
Tolerance	. 2.0	+ Supply pomp
cm3/1000 strokes	: 2.0	+ pressure bar : 6.8
Shutoff solenoid	: 12	+ Tolerance hPa : 0.3
Volt	: 12	+ Shutoff solenoid + Volt : 12
OTABITANC FUEL DEL	THEOL	† Volt : 12
STARTING FUEL DEL	.IVEKT	Rated speed rpm : 900
Dahad speed sus	: 150	
Rated speed rpm	: 150	+ Aneroid pressure + hPa : 1000
Del. quantity cm3/1000 strokes	: 52.0	
	: 32.0	+ Supply pomp + pressure bar : 4.2
Tolerance cm3/1000 strokes	: 15.0	Tolerance hPa : 0.3
Shutoff solenoid	: 15.0	+ Shutoff solenoid
Volt	: 12	+ Volt : 12
VOCE	: 12	I vott : 12
SET GRADUATED STA		OVERFLOW QUANTITY
_		+ Rated speed rpm : 2150
Rated speed rpm	: 200	+ Aneroid pressure
Del. quantity	F7. 6	+ hPa : 1000
cm3/1000 strokes	: 53.0	+ Overflow quantity
Tolerance	. 7.0	+ ccm/10s : 97.2
cm3/1000 strokes	: 3.0	+ Tolerance + ccm/10s : 41.6
Shutoff solenoid	: 12	+ ccm/10s : 41.6
Volt	: 12	Thork tolorope
		+ Check tolerance + ccm/10s : 41.6
		+ Shutoff solenoid
		+ Volt : 12
TALLECTION DUMP TE	ST SPECIFICATIONS	T vott . 12
THOSE LION LONE IS	31 3. ECT/ TCA/TONS	Rated speed rpm : 500
TIMING DEVICE CHA	PACTERISTIC	Aneroid pressure
TIMING DEVICE COM	MACTERIZOTZO	hPa : 1000
Rated speed rpm	: 2000	- Overflow quantity
Aneroid pressure	. 2000	+ ccm/10s : 62.5
hPa	: 1000	+ Tolerance
,,, c	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ ccm/10s : 20.8
SV travel mm	: 6.5	
Tolerance mm	: 0.4	+ Check tolerance
Check	· · · · · · · · · · · · · · · · · · ·	+ ccm/10s : 20.8
tolerance mm	: 0.7	+ Shutoff solenoid
Shutoff solenoid	<del>-</del> • ·	+ Volt : 12
Volt	: 12	+
	_	DELIVERY AND BREAKAWAY CHARACTERISTIC
Rated speed rpm	: 900	+
Aneroid pressure		Rated speed rpm : 2575
hPa	: 1000	+

Aneroid pressure hPa	:	1000	‡	Shutoff solenoid Volt	:	12	
Del. quantity cm3/1000 strokes	:	14.0	‡	Rated speed rpm	:	2000	
Tolerance cm3/1000 strokes	;	2.0	+	Aneroid pressure hPa	:	1000	
Check tolerance cm3/1000s. Shutoff solenoid	:	4.0	1	Del. quantity cm3/1000 strokes Tolerance	:	52.0	
Volt	:	12	+	cm3/1000 strokes Check tolerance	:	1.0	
Rated speed rpm Aneroid pressure	:	2375	‡	cm3/1000s. Shutoff solenoid	:	2.2	
hPa Del. quantity	:	1000	+	Volt	:	12	
cm3/1000 strokes Tolerance		39.0	<del>†</del>	Rated speed rpm Aneroid pressure	:	500	
cm3/1000 strokes Check tolerance	:	5.0	‡	hPa Del. quantity	:	1000	
cm3/1000s. Shutoff solenoid	:	6.0 12	‡	cm3/1000 strokes Tolerance cm3/1000 strokes		48.3 1.5	
Volt Rated speed rpm	:	2750	Ī	Check tolerance cm3/1000s.	:	3.0	
Aneroid pressure	•	1000	1	Shutoff solenoid Volt	:	12	
Del. quantity cm3/1000 strokes	:	3.0	+	Rated speed rpm	:	1250	
Tolerance cm3/1000 strokes	:	3.0	+	Aneroid pressure hPa	:	1000	
Check tolerance cm3/1000s.	:	3.0	‡	Del. quantity cm3/1000 strokes	:	54.5	
Shutoff solenoid Volt	:	12	‡	Tolerance cm3/1000 strokes Check tolerance	:	0.5	
Rated speed rpm Aneroid pressure	:	750	Ī	cm3/1000s. Shutoff solenoid	:	2.2	
hPa	:	350	‡	Volt	:	12	
LDA/ HBA stroke mm	:	5,9	‡	MECHANICAL SHUTOF	F		
Del. quantity cm3/1000 strokes	:	46.0	‡	Rated speed rpm	:	2000	
Tolerance cm3/1000 strokes Check tolerance	:	0.5	‡	Aneroid pressure hPa Del. quantity	:	1000	
cm3/1000S. Shutoff solenoid	:	3.0	Ī	cm3/1000 strokes Tolerance	:	1.5	
Volt	:	12	‡	cm3/1000 strokes Check tolerance	:	1.5	
Rated speed rpm Aneroid pressure	:	2150	‡	cm3/1000s. Shutoff solenoid	:	1.5	
hPa Del. quantity	:	1000	‡	Volt	:	. 12	
cm3/1000 strokes Tolerance		50.1	‡	ELECTR. SHUTOFF			
cm3/1000 strokes Check tolerance		1.0 2.2	‡	CONTROL LEVER, ID		400	
cm3/1000s.	:	۷,۷	Ţ	Rated speed rpm	:	<del>4</del> UU	

Del. quantity

cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. 1.5

#### FULL-LOAD STOP CONTROL LEVER

400 Rated speed rpm

Del. quantity cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. 1.5

#### START TRANSITION

Rated speed rpm 380

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt 12

#### ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 5,9

: 3,3 Dimension K mm

: +-0,1 Tolerance mm

Dimension KF mm : 6,0

: +-0,2 Tolerance mm

: 1,3 Dimension MS mm

Tolerance mm : +-0,2

# CONTROL LEVER POSITION

SET

Control lever

position YA mm : 28,8..32,8

Control lever

: 68,0..82,0 position YB mm

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 28.09.95 Edition : ISO 4113 Test oil : 0 460 494 388 Part no. Pump designation : VE4/9F2250R445-6 Customer-spec. information : PSA Customer : XUD 9 TE-L; P.306 Motor TEST BENCH REQUIREMENTS Calibrating-oil return temperature °C 45 Tolerance °C Overflow 0.55 restriction mm Inlet press. bar : 0.35 0.05 Tolerance bar Test nozzle holde : 1 688 901 022 assembly Opening pressure 130 3 Tolerance bar Test lines : 1 680 750 073 Outside diameter : 6.00 x inside diameter : 2.00 x length mm 450 REMARKS INJECTION PUMP SETTING VALUES

Rated speed rpm : 1500 Aneroid pressure 1000 hPa Setting mm 4.1 Tolerance mm 0.2 Shutoff solenoid 12 Volt SUPPLY PUMP PRESSURE Rated speed rpm 1500 Aneroid pressure 1000 hPa Setting hPa 5.7 Tolerance hPa 0.3 Shutoff solenoid Volt 12 FULL-LOAD DELIVERY WITH BOOST PRESSURE 1250 Rated speed rpm : Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 54.5 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt FULL-LOAD DELIV. WITHOUT BOOST PRESSURE Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid 12 Volt Check tolerance cm3/1000s.3.0 HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING Rated speed rpm 490 Del. quantity cm3/1000 strokes : 8.5 Tolerance cm3/1000 strokes : 0.5

12

Shutoff solenoid

Volt

TIMING DEVICE TRAVEL

FULL-LOAD SPEED F	DECHI ATTOM	Shutoff solenoid Volt : 12
FULL-LUAD SPEED R	REGOLATION	vott . 12
Rated speed rpm Pressure hPa		SUPPLY PUMP PRESSURE CHARACTERISTIC
Del. quantity cm3/1000 strokes	į.	Rated speed rpm : 2000 Aneroid pressure
Tolerance cm3/1000 strokes	+	hPa : 1000 Supply pomp
Shutoff solenoid	<del>}</del>	pressure bar : 6.8
Volt	: 12 +	Tolerance hPa : 0.3 Shutoff solenoid
STARTING FUEL DEL	LIVERY	Volt : 12
Rated speed rpm Del. quantity	: 150	Rated speed rpm : 900 Aneroid pressure
cm3/1000 strokes Tolerance	: 52.0	hPa : 1000 Supply pomp
cm3/1000 strokes		pressure bar : 4.2
Shutoff solenoid	: 12 ‡	Tolerance hPa : 0.3 Shutoff solenoid
Volt	į.	Volt : 12
SET GRADUATED STA CONTROL LEVER, ID		OVERFLOW QUANTITY
Rated speed rpm Del. quantity	: 200	Rated speed rpm : 2150 Aneroid pressure
cm3/1000 strokes Tolerance	: 53.0	hPa : 1000 Overflow quantity
cm3/1000 strokes Shutoff solenoid	: 3.0	ccm/10s : 97.2 Tolerance
Volt	: 12	ccm/10s : 41.6
	Ţ	Check tolerance
		ccm/10s : 41.6 Shutoff solenoid
INJECTION-PUMP TE	EST SPECIFICATIONS	Volt : 12
TIMING DEVICE CHA	ARACTERISTIC	Rated speed rpm : 500 Aneroid pressure
Rated speed rpm Aneroid pressure	: 2000	hPa : 1000 Overflow quantity
hPa	: 1000	ccm/10s : 62.5 Tolerance
SV travel mm	: 6.5	ccm/10s : 20.8
Tolerance mm Check	: 0.4	Check tolerance
tolerance mm Shutoff solenoid	: 0.7	ccm/10s : 20.8 Shutoff solenoid
Volt	: 12	Volt : 12
Rated speed rpm Aneroid pressure	: 900	DELIVERY AND BREAKAWAY CHARACTERISTIC
hPa	: 1000	Rated speed rpm : 2575 Aneroid pressure
SV travel mm Tolerance mm	: 1.2 : 0.4	hPa : 1000 Del. quantity
Check	+	cm3/1000 strokes : 14.0
tolerance mm	: 0.7	Tolerance cm3/1000 strokes : 2.0

Check tolerance			+	Check tolerance			
cm3/1000S.	:	4.0	+	cm3/1000s.	:	2.2	
Shutoff solenoid			+	Shutoff solenoid			
Volt	•	12	1	Volt	•	12	
	•		1				
Rated speed rpm	:	2375	<u> </u>	Rated speed rpm	:	500	
	•	2313	Ţ		•	500	
Aneroid pressure		4000	†	Aneroid pressure		4000	
hPa	:	1000	+	hPa	:	1000	
Del. quantity			+	Del. quantity			
cm3/1000 strokes	:	39.0	+	cm3/1000 strokes	:	48.3	
Tolerance			1	Tolerance			
cm3/1000 strokes	•	5.0	1	cm3/1000 strokes	•	1.5	
Check tolerance	•	<b>3.0</b>	1	Check tolerance	•		
cm3/1000S.		6.0	j	cm3/1000s.		3.0	
	•	0.0	T		•	5.0	
Shutoff solenoid		40	Ť	Shutoff solenoid		40	
Volt	:	12	†	Volt	:	12	
			+				
Rated speed rpm	:	2750	+	Rated speed rpm	:	1250	
Aneroid pressure			+	Aneroid pressure			
hPa	•	1000	1	hPa	•	1000	
Del. quantity	•	.000	1	Del. quantity	-	.000	
cm3/1000 strokes		3.0	T	cm3/1000 strokes	:	54.5	
	•	5.0	Ŧ		•	24.5	
Tolerance		7.0	Ť	Tolerance		0.5	
cm3/1000 strokes	:	3.0	†	cm3/1000 strokes	:	0.5	
Check tolerance			+	Check tolerance			
cm3/1000s.	:	3.0	+	cm3/1000s.	:	2.2	
Shutoff solenoid			+	Shutoff solenoid			
Volt	:	12	+	Volt	:	12	
			1			. —	
			•				
Rated speed rom	•	75N	+	<del></del>			
Rated speed rpm	:	750	1	MECHANICAL SHUTOR			
Aneroid pressure	:		†	MECHANICAL SHUTOF	F		
Aneroid pressure hPa	:	750 350	†			2000	
Aneroid pressure hPa Del. quantity	:	350	†	Rated speed rpm	F:	2000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes	:		† † †	Rated speed rpm Aneroid pressure			
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	350 46.0	† † † †	Rated speed rpm Aneroid pressure hPa		2000 1000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	350	† † † †	Rated speed rpm Aneroid pressure hPa Del. quantity	:	1000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	350 46.0	† † † † †	Rated speed rpm Aneroid pressure hPa	:		
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	350 46.0 0.5	† † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:	1000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	350 46.0	† † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	1000 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	350 46.0 0.5 3.0	† † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	350 46.0 0.5	† † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1000 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		350 46.0 0.5 3.0	† † † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1000 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt Rated speed rpm		350 46.0 0.5 3.0	† † † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt Rated speed rpm Aneroid pressure		350 46.0 0.5 3.0 12 2150	† † † † † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1000 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa		350 46.0 0.5 3.0	† † † † † † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity		350 46.0 0.5 3.0 12 2150 1000	† † † † † † † † † †	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa		350 46.0 0.5 3.0 12 2150	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity		350 46.0 0.5 3.0 12 2150 1000	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	: : : : : : : : : : : : : : : : : : : :	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance		350 46.0 0.5 3.0 12 2150 1000 51.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF	: : : : : : : : : : : : : : : : : : : :	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		350 46.0 0.5 3.0 12 2150 1000	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID	: : : : : : : : : : : : : : : : : : : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm	: : :	1000 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		350 46.0 0.5 3.0 12 2150 1000 51.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity	: : : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes	: : : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Rated speed rpm		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Rated speed rpm		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Aneroid pressure hPa		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12 2000 1000	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12	<del>+++++++++++++++++++++++++++++++++++++</del>	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. FULL-LOAD STOP CO	: : : : : : : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity		350 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12 2000 1000	<del>+++++++++++++++++++++++++++++++++++++</del>	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : :	1000 1.5 1.5 1.5 12 TOP 400 1.5 1.5	

Del. quantity

cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

## START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,3
Tolerance mm : +-0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 28,8..32,8

Control lever

position YB mm : 68,0..82,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.06.95 Edition : ISO 4113 Test oil

: 0 460 494 409 Part no. Pump designation : VE4/9F2250R445-

Customer-spec. information : PSA Customer

: XUD 9 TF-L Motor Power KW 67.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature \*C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.09

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter: x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1500

Aneroid pressure

hPa 1000 :

Setting mm 4.1 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

1500 Rated speed rpm

Ameroid pressure

1000 hPa

Setting hPa 5.7 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1250

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 54.5

Tolerance cm3/1000 strokes :

0.5 Spread

2.0 cm3/1000 strokes : Check tolerance

cm3/1000s.

Shutoff solenoid 12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

3.0

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s.

3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 490

Del. quantity cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 0.5

61			01 1	
Shutoff solenoid		†	Check	0.7
Volt	: 12	†	tolerance mm	: 0.7
5/11 1 040 00550 5	250H 4770N	†	Shutoff solenoid	13
FULL-LOAD SPEED F	REGULATION	†	Volt	: 12
Dahad amand ann	. 2575	†	CURRLY RUMB PRECE	LIDE CHARACTERICTIC
Rated speed rpm	: 2575	†	SUPPLY PUMP PRESS	URE CHARACTERISTIC
Pressure hPa	: 1000	†	Data damandan	. 2000
Del. quantity	. 4/ 0	Ť	Rated speed rpm	: 2000
cm3/1000 strokes	: 14.0	†	Aneroid pressure	. 4000
Tolerance	. 20	†	hPa	: 1000
cm3/1000 strokes	: 2.0	†	Supply pomp	
Shutoff solenoid	: 12	†	pressure bar	: 6.8
Volt	: 12	†	Tolerance hPa	: 0.3
OTABITANO FUEL DEL	THERE	†	Shutoff solenoid	. 12
STARTING FUEL DEL	TAFKA	†	Volt	: 12
Datad annud ann	. 450	†	Datasi annual ann	. 000
Rated speed rpm	: 150	T	Rated speed rpm	: 900
Del. quantity cm3/1000 strokes	: 52.0	T	Aneroid pressure hPa	: 1000
	. 52.0	T		. 1000
Tolerance cm3/1000 strokes	: 15.0	T	Supply pomp pressure bar	: 4.2
Shutoff solenoid	: 15.0	Ť	Tolerance hPa	: 0.3
	: 12	Ţ	Shutoff solenoid	. 0.3
Volt	: 12	Ţ	Volt	: 12
SET GRADUATED STA	ARTING NELTHERY	Ţ	VOCE	. 12
CONTROL LEVER, ID		Ι	OVERFLOW QUANTITY	
CONTROL CEVERY 10	, LE 0101	1	OVERTEON COARTITI	
Rated speed rpm	: 200	1	Rated speed rpm	: 2150
Del. quantity	. 255	1	Aneroid pressure	. 2.30
cm3/1000 strokes	: 53.0	1	hPa	: 1000
Tolerance	. 30.0	1	Overflow quantity	
cm3/1000 strokes	: 3.0	1	ccm/10s	: 97.2
Shutoff solenoid		1	Tolerance	• • • • • • • • • • • • • • • • • • • •
Volt	: 12	1	ccm/10s	: 41.6
		1		
		į.	Check tolerance	
		1	ccm/10s	: 41.6
		- +	Shutoff solenoid	
INJECTION-PUMP TE	ST SPECIFICATIONS	+	Volt	: 12
		+		
TIMING DEVICE CHA	RACTERISTIC	+	Rated speed rpm	: 500
		+	Aneroid pressure	
Rated speed rpm	: 2000	+	hPa	: 1000
Aneroid pressure	4000	+	Overflow quantity	<b>(2.5</b>
hPa	: 1000	†	ccm/10s	: 62.5
014 Americal and		†	Tolerance	. 20.0
SV travel mm	: 6.5	T	ccm/10s	: 20.8
Tolerance mm	: 0.4	T	Charle talanana	
Check	: 0.7	T	Check tolerance ccm/10s	: 20.8
tolerance mm Shutoff solenoid	: 0.7	Ť	Shutoff solenoid	: 20.0
	: 12	Ĩ	Volt	: 12
Volt	• 15	I	VOCE	
Rated speed rpm	: 900	I	DELIVERY AND REFAR	KAWAY CHARACTERISTIC
Aneroid pressure	. ,,,,	I	ACCTACIVE MIND DISCUI	WALL CHANGE FULL III
hPa	: 1000	1	Rated speed rpm	: 2575
171 W		1	Aneroid pressure	· •
SV travel mm	: 1.2	1	hPa	: 1000
Tolerance mm	: 0.4	+	Del. quantity	
· · · · · · · · · · · · · · · · · ·		+	cm3/1000 strokes	: 14.0

Tolerance cm3/1000 strokes	:	2.0	‡	Aneroid pressure hPa	:	1000	
Check tolerance cm3/1000s.	:	4.0	‡	Del. quantity cm3/1000 strokes	:	52.0	
Shutoff solenoid Volt	:	12	‡		:	1.0	
Rated speed rpm Aneroid pressure	: 237	25	Ī	Check tolerance cm3/1000s. Shutoff solenoid	:	2.2	
hPa Del. quantity	: 1	1000	1	Volt	:	12	
cm3/1000 strokes Tolerance	: 3	39.0	‡	Rated speed rpm Aneroid pressure	:	500	
cm3/1000 strokes Check tolerance	:	5.0	+	hPa Del. quantity	:	1000	
cm3/1000s. Shutoff solenoid	:	6.0	‡	cm3/1000 strokes Tolerance		48.3	
Volt Rated speed rpm	: : 275	12 so	Ŧ	cm3/1000 strokes Check tolerance cm3/1000s.	:	1.5 3.0	
Aneroid pressure		1000	I	Shutoff solenoid Volt	:	12	
Del. quantity cm3/1000 strokes		3.0	‡	Rated speed rpm	:	1250	
Tolerance cm3/1000 strokes	:	3.0	+	Aneroid pressure hPa	:	1000	
Check tolerance cm3/1000s.	:	3.0	‡	Del. quantity cm3/1000 strokes	:	54.5	
Shutoff solenoid Volt	:	12	Ī	Tolerance cm3/1000 strokes Check tolerance	:	0.5	
Rated speed rpm Aneroid pressure	: 75	50	I	cm3/1000S. Shutoff solenoid	:	2.2	
hPa	:	350	+	Volt	:	12	
LDA/ HBA stroke mm	:	5.9	+	MECHANICAL SHUTOF	F		
Del. quantity cm3/1000 strokes	: 4	6.0	Ŧ	Rated speed rpm Aneroid pressure	:	2000	
Tolerance cm3/1000 strokes Check tolerance	:	0.5	Ī	hPa Del. quantity	:	1000	
cm3/1000S. Shutoff solenoid	:	3.0	‡	cm3/1000 strokes Tolerance		1.5	
Volt	:	12	+	cm3/1000 strokes Check tolerance	:	1.5	
Rated speed rpm Aneroid pressure	: 215		‡	cm3/1000s. Shutoff solenoid	:	1.5	
hPa Del. quantity cm3/1000 strokes		000 0.1	Ī	Volt	:	12	
Tolerance cm3/1000 strokes		1.0	1	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	TOP	
Check tolerance cm3/1000s.		2.2	‡	Rated speed rpm	:	400	
Shutoff solenoid Volt	•	12	‡	Del. quantity cm3/1000 strokes	:	1.5	
	•	, _	1	<b>▼</b> 1			
Rated speed rpm	: 200		<del> </del>	Tolerance cm3/1000 strokes	:	1.5	

Check tolerance cm3/1000s. 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 1.5 START TRANSITION 380 Rated speed rpm : Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes : 10.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 5.9 : 3,3 Dimension K mm : +-0,1 Tolerance mm Dimension KF mm : 6,0 Tolerance mm : +0,2 Dimension MS mm : 1,3 : +-0,2 Tolerance mm CONTROL LEVER POSITION SET Control lever : 25,8..29,8 position YA mm Control lever

: 68,0..82,0 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 22,06.95

: ISO 4113

Part no.

: 0 460 494 410

Pump designation : VE4/9F2250R445-6

Customer-spec. information

Customer

: PSA

Motor

: XUD 9 TF/L

Power KW

67.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C

Tolerance °C

45 1

Overflow

restriction mm

0.55

Inlet press. bar :

0.35

Tolerance bar

0.05

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

bar

130

Tolerance bar

3

Test lines

: 1 680 750 073

Outside diameter :

6.00

x inside diameter :

2.00

x length mm

**REMARKS** 

450

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1500

Aneroid pressure

1000

Setting mm 4.1

Tolerance mm Shutoff solenoid 0.2

Volt

12

SUPPLY PUMP PRESSURE

1500 Rated speed rpm

:

Aneroid pressure hPa

1000

Setting hPa

5.7

Tolerance hPa

0.3

Shutoff solenoid

Volt

12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

: 1250 Rated speed rpm

Aneroid pressure

hPa

1000

Del. quantity cm3/1000 strokes :

54.5

Tolerance

cm3/1000 strokes :

Spread

cm3/1000 strokes : 2.0

Check tolerance

3.0

0.5

cm3/1000s. Shutoff solenoid

Volt

12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes :

37.0

Tolerance

0.5

cm3/1000 strokes : Shutoff solenoid

Volt

12

Check tolerance cm3/1000s.

3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm

Del. quantity

490

cm3/1000 strokes :

8.5

Tolerance

cm3/1000 strokes :

0.5

Shutoff solenoid Volt	:	12	‡	Check tolerance mm Shutoff solenoid	:	0.7	
FULL-LOAD SPEED R	REGUL	ATION	Ŧ	Volt	:	12	
Rated speed rpm Pressure hPa	:	2575 1000	Ī	SUPPLY PUMP PRESS	URE	CHARACTERISTIC	
Del. quantity cm3/1000 strokes	:	14,0	Ī	Rated speed rpm Aneroid pressure	:	2000	
Tolerance cm3/1000 strokes		2.0	+	hPa Supply pomp	:	1000	
Shutoff solenoid	•	12	1	pressure bar Tolerance hPa	:	6.8 0.3	
STARTING FUEL DEL	TVER		1	Shutoff solenoid Volt	•	12	
STANTING FOLL DEL	. I V L ( )	•	1	1000	•	, _	
Rated speed rpm Del. quantity	:	150	‡	Rated speed rpm Aneroid pressure	:	900	
cm3/1000 strokes Tolerance	:	52.0	‡	hPa Supply pomp	:	1000	
cm3/1000 strokes	:	15.0	+	pressure bar	:	4.2	
Shutoff solenoid		40	+	Tolerance hPa	:	0.3	
Volt	:	12	‡	Shutoff solenoid Volt	:	12	
SET GRADUATED STA CONTROL LEVER, ID			‡	OVERFLOW QUANTITY			
Rated speed rpm	:	200	†	Rated speed rpm Aneroid pressure	:	2150	
Del. quantity cm3/1000 strokes	:	53.0	Ŧ	hPa	:	1000	
Tolerance cm3/1000 strokes	:	3.0	Ŧ	Overflow quantity ccm/10s	:	97.2	
Shutoff solenoid Volt	:	12	Ŧ	Tolerance ccm/10s	:	41.6	
			<del>I</del>	Check tolerance ccm/10s Shutoff solenoid	:	41.6	
INJECTION-PUMP TE	ST SF	PECIFICATIONS	1	Volt	:	12	
TIMING DEVICE CHA	RACTE	ERISTIC	$\frac{1}{1}$	Rated speed rpm Aneroid pressure	:	500	
Rated speed rpm Aneroid pressure	:	2000	Ì	hPa Overflow quantity	:	1000	
hPa	:	1000	1	ccm/10s Tolerance	:	62.5	
SV travel mm Tolerance mm	:	6.5 0.4	1	ccm/10s	:	20.8	
Check tolerance mm	•	0.7	<u></u>	Check tolerance ccm/10s	:	20.8	
Shutoff solenoid Volt	•	12	1	Shutoff solenoid Volt	•	12	
<b>70(</b> C	•		Ţ		•		
Rated speed rpm Aneroid pressure	:	900	‡	DELIVERY AND BREAK	KAWA		С
hPa	:	1000	‡	Rated speed rpm Aneroid pressure	:	2575	
SV travel mm	:	1.2	+	hPa	:	1000	
Tolerance mm	:	0.4	‡	Del. quantity cm3/1000 strokes	:	14.0	

Tolerance cm3/1000 strokes	:	2.0	‡	Tolerance cm3/1000 strokes	:	1.0	
Check tolerance cm3/1000s.	•	4.0	‡	Check tolerance cm3/1000s.	:	2.2	
Shutoff solenoid Volt	:	12	‡	Shutoff solenoid Volt	:	12	
Rated speed rpm Aneroid pressure	:	2375	1	Rated speed rpm Aneroid pressure	:	500	
hPa Del. quantity	:	1000	1	hPa Del. quantity	:	1000	
cm3/1000 strokes Tolerance	:	39.0	1	cm3/1000 strokes Tolerance	:	48.3	
cm3/1000 strokes Check tolerance	:	5.0	‡	cm3/1000 strokes Check tolerance	:	1.5	
cm3/10003. Shutoff solenoid	:	6.0	‡	cm3/1000S. Shutoff solenoid	:	3.0	
Volt Rated speed rpm	:	12 2750	Ī	Volt Rated speed rpm	:	12 1250	
Aneroid pressure hPa	•	1000	Ī	Aneroid pressure	•	1000	
Del. quantity cm3/1000 strokes	:	3.0	‡	Del. quantity cm3/1000 strokes	:	54.5	
Tolerance cm3/1000 strokes	:	3.0	+	Tolerance cm3/1000 strokes	:	0.5	
Check tolerance cm3/1000s.	:	3.0	†	Check tolerance cm3/1000s.	:	2.2	
Shutoff solenoid Volt	:	12	‡	Shutoff solenoid Volt	:	12	
			1				
Rated speed rpm Aneroid pressure	:	750	+	MECHANICAL SHUTOF		<del></del>	
Aneroid pressure hPa Del. quantity	:	350	+ + + + +	MECHANICAL SHUTOF	F:	2000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	:	350 46.0	+ + + + +	Rated speed rpm Aneroid pressure hPa		2000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	350 46.0 0.5	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:		
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	350 46.0 0.5 3.0	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	1000	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	350 46.0 0.5 3.0	****	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	1000 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	350 46.0 0.5 3.0	******	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	1000 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes		350 46.0 0.5 3.0 12 2150	*****************	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF	: : : : :	1000 1.5 1.5 1.5 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	350 46.0 0.5 3.0 12 2150 1000	**************************************	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID	: : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	350 46.0 0.5 3.0 12 2150 1000 50.1	┿╫┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿ <b>┿</b>	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity	: : :	1000 1.5 1.5 1.5 12 STOP 400	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	350 46.0 0.5 3.0 12 2150 1000 50.1 1.0	**************************************	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm	: : : : : :	1000 1.5 1.5 1.5 12	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	350 46.0 0.5 3.0 12 2150 1000 50.1 1.0 2.2 12 2000	┿╇┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿ <b>┼</b>	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: : : : : :	1000 1.5 1.5 1.5 12 STOP 400 1.5	
Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm		350 46.0 0.5 3.0 12 2150 1000 50.1 1.0 2.2	┿╫╫╃╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇╇	Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : :	1000 1.5 1.5 1.5 12 STOP 400 1.5 1.5	

Rated speed rpm : 400

Del. quantity cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

## START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

#### ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,3
Tolerance mm : +-0,2

# CONTROL LEVER POSITION

SET

Control lever

position YA mm : 25,8..29,8

Control lever

position YB mm : 68,082,0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22,06,95 Test oil : ISO 4113

: 0 460 494 411 Part no. Pump designation: VE4/9F2250R445-7

Customer-spec. information Customer : PSA

: XUD 9 TF/L Motor Power KW 67.0

#### TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : 0.05 Tolerance bar

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

## REMARKS

INJECTION PUMP SETTING VALUES

#### TIMING DEVICE TRAVEL

1500 Rated speed rpm

Aneroid pressure

hPa 1000

4.1 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

#### SUPPLY PUMP PRESSURE

Rated speed rpm 1500 Aneroid pressure

1000 hPa

5.7 Setting hPa Tolerance hPa 0.3

Shutoff solenoid

Volt 12

#### FULL-LOAD DELIVERY WITH BOOST PRESSURE

1250 Rated speed rpm Aneroid pressure hPa 1000

Del. quantity cm3/1000 strokes : 54.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0 Check tolerance

cm3/1000s. 3.0 Shutoff solenoid

Volt 12

#### FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 37.0 Tolerance

cm3/1000 strokes :

0.5 Shutoff solenoid

Volt

Check tolerance cm3/1000s. 3.0

#### HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

490 Rated speed rpm Del. quantity

cm3/1000 strokes : 8.5

Tolerance cm3/1000 strokes : 0.5

Shutoff solenoid		+ Check	
Volt	: 12	† tolerance mm	: 0.7
		+ Shutoff solenoid	
FULL-LOAD SPEED F	REGULATION	→   Volt	: 12
		+	
Rated speed rpm	: 2575	+ SUPPLY PUMP PRESS	URE CHARACTERISTIC
Pressure hPa	: 1000	+	
Del. quantity		+ Rated speed rpm	: 2000
cm3/1000 strokes	: 14.0	+ Aneroid pressure	
Tolerance		† hPa	: 1000
cm3/1000 strokes	: 2.0	+ Supply pomp	
Shutoff solenoid		+ pressure bar	: 6.8
Volt	: 12	+ Tolerance hPa	: 0.3
		+ Shutoff solenoid	40
STARTING FUEL DEL	LIVERY	+ Volt	: 12
	450	†	000
Rated speed rpm	: 150	Rated speed rpm	: 900
Del. quantity	. 53.0	+ Aneroid pressure	. 1000
cm3/1000 strokes	: 52.0	+ hPa	: 1000
Tolerance	: 15.0	+ Supply pomp	
cm3/1000 strokes Shutoff solenoid	: 15.0	+ pressure bar + Tolerance hPa	: 4.2 : 0.3
•	: 12	+ Shutoff solenoid	: 0.3
Volt	. 12	+ Volt	: 12
SET GRADUATED STA	ARTING DELIVERY	I	. 12
CONTROL LEVER, ID		+ OVERFLOW QUANTITY	
CONTINUE ELIENY 10	22 3131	1	
Rated speed rpm	: 200	+ Rated speed rpm	: 2150
Del. quantity	_	+ Aneroid pressure	
cm3/1000 strokes	: 53.0	→ hPa	: 1000
Tolerance		+ Overflow quantity	
cm3/1000 strokes	: 3.0	+ ccm/10s	: 97.2
Shutoff solenoid		† Tolerance	
Volt	: 12	+ ccm/10s	: 41.6
		†	
		+ Check tolerance	
		+ ccm/10s + Shuteff solenoid	: 41.6
THIS COUNTRY OF THE	COT COPCLETCATIONS	+ Volt	: 12
TIMECTION-POMP TE	ST SPECIFICATIONS	I	. 12
TIMING DEVICE CHA	PACTERISTIC	T Rated speed rpm	: 500
TIMING DEVICE CHA	MACIENIOTIC	+ Aneroid pressure	. 200
Rated speed rpm	: 2000	+ hPa	: 1000
Aneroid pressure		+ Overflow quantity	• • • •
hPa	: 1000	+ ccm/10s	: 62.5
••		+ Tolerance	
SV travel mm	: 6.5	+ ccm/10s	: 20.8
Tolerance mm	: 0.4	+	
Check		† Check tolerance	
tolerance mm	: 0.7	+ ccm/10s	: 20.8
Shutoff solenoid	4-5	+ Shutoff solenoid	40
Volt	: 12	† Volt	: 12
Dakad award ass	. 000	TO THE THE PROPERTY	ALIAN CHARACTERISTIC
Rated speed rpm	: 900	I DELIVERY AND BREAK	CAWAY CHARACTERISTIC
Aneroid pressure hPa	: 1000	Rated speed rpm	: 2575
rir a	. 1000	Aneroid pressure	• • • • •
SV travel mm	: 1.2	hPa	: 1000
Tolerance mm	0.4	Del. quantity	
Sur write inii	- · · · · · · · · · · · · · · · · · · ·	+ cm3/1000 strokes	: 14.0
			- <del>-</del>

Tolerance cm3/1000 strokes	:	2.0	‡	Aneroid pressure hPa : 1000
Check tolerance cm3/1000s.	:	4.0	†	Del. quantity cm3/1000 strokes : 52.0
Shutoff solenoid Volt	:	12	‡	Tolerance cm3/1000 strokes : 1.0
Rated speed rpm Ancroid pressure	:	2375	1	· Check tolerance · cm3/1000s. : 2.2 · Shutoff solenoid
hPa Del. quantity	:	1000	$\frac{1}{1}$	Volt : 12
cm3/1000 strokes Tolerance		39.0	‡	Rated speed rpm : 500 Aneroid pressure
cm3/1000 strokes Check tolerance	:	5.0	‡	hPa : 1000 Del. quantity
cm3/1000s. Shutoff solenoid	:	6.0	‡	cm3/1000 strokes : 48.3 Tolerance
Volt Rated speed rpm	:	12 2750	1	cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 3.0
Aneroid pressure	•	1000	Ī	Shutoff solenoid Volt: 12
Del. quantity cm3/1000 strokes	:	3.0	1	Rated speed rpm : 1250
Tolerance cm3/1000 strokes	:	3.0	+	Aneroid pressure hPa : 1000
Check tolerance cm3/1000s. Shutoff solenoid	:	3.0	†	Del. quantity cm3/1000 strokes : 54.5 Tolerance
Volt	:	12	1	cm3/1000 strokes : 0.5 Check tolerance
Rated speed rpm Aneroid pressure	:	750	<del> </del>	cm3/1000s. : 2.2 Shutoff solenoid
hPa	:	350	‡	Volt : 12
LDA/ HBA stroke mm Del. quantity	:	5,9	‡	MECHANICAL SHUTOFF
cm3/1000 strokes Tolerance	:	46.0	+	Rated speed rpm : 2000 Aneroid pressure
cm3/1000 strokes Check tolerance	:	0.5	+	hPa : 1000 Del. quantity
cm3/1000s. Shutoff solenoid	:	3.0 12	+	cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5
Volt Rated speed rpm	:	2150	1	cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5
Aneroid pressure	:	1000	‡	Shutoff solenoid Volt : 12
Del. quantity cm3/1000 strokes	:	50.1	+	
Tolerance cm3/1000 strokes	:	1.0	†	ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP
Check tolerance cm3/1000S. Shutoff solenoid	:	2.2	1	Rated speed rpm : 400 Del. quantity
Volt	:	12	Ī	cm3/1000 strokes : 1.5 Tolerance
Rated speed rpm	:	2000	1	cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

FULL-LOAD STOP CONTROL LEVER

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

#### START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

#### ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5,9

Dimension K mm : 3,3

Tolerance mm : +0,1 Dimension KF mm : 6,0

Tolerance mm : +-0,2

Dimension MS mm : 1,3

Tolerance mm : +-0,2

## CONTROL LEVER POSITION

SET

Control lever

position YA mm : 25,8..29,8

Control lever

position YB mm : 73,0..87,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.04.95 Test oil : ISO 4113

Part no. : 0 460 494 412 Pump designation : VE4/9F2250R445-8

Customer—spec. information Customer : PSA

Motor : XUD 9 TF/L Power KW : 67.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Aneroid pressure

hPa : 1000

Setting mm : 4.1 Tolerance mm : 0.2

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Aneroid pressure

hPa : 1000

Setting hPa : 5.7 Tolerance hPa : 0.3

Shutoff solenoid Volt

lt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250
Aneroid pressure

hPa : 1000

Del. quantity cm3/1000 strokes : 54.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Voit : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 12

Check tolerance

cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 490

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid	+ Check
Volt : 12	tolerance mm : 0.7
	+ Shutoff solenoid
FULL-LOAD SPEED REGULATION	+ Volt : 12
	†
Rated speed rpm : 2575	+ SUPPLY PUMP PRESSURE CHARACTERISTIC
Pressure hPa : 1000	†
Del. quantity	+ Rated speed rpm : 2000
cm3/1000 strokes : 14.0	+ Aneroid pressure
Tolerance	+ hPa : 1000
cm3/1000 strokes : 2.0	+ Supply pomp
Shutoff solenoid	pressure bar : 6.8
Volt : 12	† Tolerance hPa : 0.3
	+ Shutoff solenoid
STARTING FUEL DELIVERY	† Volt : 12
5	†
Rated speed rpm : 150	+ Rated speed rpm : 900
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 52.0	hPa : 1000
Tolerance	+ Supply pomp
cm3/1000 strokes : 15.0	+ pressure bar : 4.2
Shutoff solenoid	+ Tolerance hPa : 0.3
Volt : 12	+ Shutoff solenoid
OFT CRANIATER OTARTING RELIVERY	† Volt : 12
SET GRADUATED STARTING DELIVERY	T OVERFLOW QUANTITY
CONTROL LEVER, IDLE STOP	I OVERPLOW GOMINITI
Rated speed rpm : 200	Rated speed rpm : 2150
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 53.0	hPa : 1000
Tolerance	Overflow quantity
cm3/1000 strokes : 3.0	+ ccm/10s : 97.2
Shutoff solenoid	Tolerance
Volt : 12	+ ccm/10s : 41.6
	+
	+ Check tolerance
	+ ccm/10s : 41.6
	+ Shutoff solenoid
INJECTION-PUMP TEST SPECIFICATION	IS → Volt : 12
	+
TIMING DEVICE CHARACTERISTIC	+ Rated speed rpm : 500
	+ Aneroid pressure
Rated speed rpm : 2000	† hPa : 1000
Aneroid pressure	+ Overflow quantity
hPa : 1000	+ ccm/10s : 62.5
	+ Tolerance
SV travel mm : 6.5	+ ccm/10s : 20.8
Tolerance mm : 0.4	†
Check	+ Check tolerance
tolerance mm : 0.7	+ ccm/10s : 20.8
Shutoff solenoid	+ Shutoff solenoid
Volt : 12	+ Volt : 12
000	DELIVEDY AND DESKAUAY CHARACTERICTIC
Rated speed rpm : 900	DELIVERY AND BREAKAWAY CHARACTERISTIC
Aneroid pressure hPa : 1000	Rated speed rpm : 2575
hPa : 1000	+ Aneroid pressure
SV travel mm : 1.2	+ hPa : 1000
Tolerance mm : 0.4	Del. quantity
10 tot at 100 iinii . 0.7	cm3/1000 strokes : 14.0
	I SING TOUGHT ONCE I TTIE

Tolerance cm3/1000 strokes	•	2.0	‡	Aneroid pressure	•	1000	
Check tolerance cm3/1000s.	:	4.0	1	Del. quantity cm3/1000 strokes	:	52.0	
Shutoff solenoid Volt	:	12	‡	Tolerance cm3/1000 strokes		1.0	
Rated speed rpm	:	2375	‡	Check tolerance cm3/1000s.	:	2.2	
Aneroid pressure hPa	:	1000	‡	Shutoff solenoid Volt	:	12	
Del. quantity cm3/1000 strokes	:	39.0	‡	Rated speed rpm	:	500	
Tolerance cm3/1000 strokes Check tolerance	:	5.0	Ī	Aneroid pressure hPa Del. quantity	:	1000	
cm3/1000s. Shutoff solenoid	:	6.0	Ī	cm3/1000 strokes Tolerance	:	48.3	
Volt	:	12	‡	cm3/1000 strokes Check tolerance	:	1.5	
Rated speed rpm Aneroid pressure	:	2750	<b>†</b>	cm3/1000s. Shutoff solenoid	:	3.0	
hPa Del. quantity	:	1000	‡	Volt	:	12	
cm3/1000 strokes Tolerance		3.0	+	Rated speed rpm Aneroid pressure	:	1250	
cm3/1000 strokes Check tolerance cm3/1000s.		3.0 3.0	<u> </u>	hPa Del. quantity cm3/1000 strokes	:	1000 54.5	
Shutoff solenoid Volt	•	12	Ī	Tolerance cm3/1000 strokes		0.5	
Rated speed rpm	:	750	+	Check tolerance cm3/1000s.	:	2.2	
Aneroid pressure hPa	:	350	+	Shutoff solenoid Volt	:	12	
LDA/		<b>.</b> .	‡			<del></del>	
HBA stroke mm Del. quantity	:	5,9	+	MECHANICAL SHUTOF	F -	2000	
cm3/1000 strokes Tolerance cm3/1000 strokes	:	46.0 0.5	Ī	Rated speed rpm Aneroid pressure hPa	:	2000 1000	
Check tolerance cm3/1000s.	:	3.0	<u> </u>	Del. quantity cm3/1000 strokes	:	1.5	
Shutoff solenoid Volt	:	12	+	Tolerance cm3/1000 strokes	:	1.5	
Rated speed rpm	:	2150	‡	Check tolerance cm3/1000s.	:	1.5	
Aneroid pressure hPa	:	1000	†	Shutoff solenoid Volt	:	12	
Del. quantity cm3/1000 strokes Tolerance	:	50.1	Ī	ELECTR. SHUTOFF			
cm3/1000 strokes Check tolerance	:	1.0		CONTROL LEVER, ID	LE S	STOP	
cm3/1000s. Shutoff solenoid	:	2.2	+	Rated speed rpm Del. quantity	:	400	
Volt	:	12	‡	cm3/1000 strokes Tolerance		1.5	
Rated speed rpm	:	2000	‡	cm3/1000 strokes	:	1.5	

Check tolerance cm3/1000s. 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm 400 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance 1.5 cm3/1000s. START TRANSITION 380 Rated speed rpm Del. quantity 35.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : 10.0 Shutoff solenoid 12 Volt ASSEMBLY AND ADJUSTMENT DIMENSIONS LDA/ HBA stroke mm 5,9 : 3,3 Dimension K mm Tolerance mm : +0,1 : 6,0 Dimension KF mm : +-0,2 Tolerance mm Dimension MS mm : 1,3 Tolerance mm : +-0,2 CONTROL LEVER POSITION SET Control lever : 25,8..29,8 position YA mm Control lever position YB mm : 68,0..82,0

	1
BOSCH INJ. PUMP TEST SPECIFICATIONS	Rated speed rpm : Aneroid pressure
Note remarks	hPa :
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/	Setting mm : Tolerance mm : Shutoff solenoid Volt :
Edition : 23.10.95 Test oil : ISO 4113	SUPPLY PUMP PRESSURE
Part no. : 0 460 494 428 Pump designation : VE4/9F2250R445-0	Rated speed rpm : Aneroid pressure hPa :
Customer-spec. information Customer : PSA Motor : XUD 9 TE-L;	Setting hPa : Tolerance hPa : Shutoff solenoid Volt :
TEST BENCH REQUIREMENTS	FULL-LOAD DELIVERY W
Calibrating-oil return temperature °C : 45 Tolerance °C : 1	Rated speed rpm : Aneroid pressure hPa : Del. quantity
Overflow restriction mm : 0.55	cm3/1000 strokes : Tolerance cm3/1000 strokes : Spread cm3/1000 strokes :
Inlet press. bar : 0.35 Tolerance bar : 0.05	Check tolerance cm3/1000s. : Shutoff solenoid
Test nozzle holde assembly : 1 688 901 022	FULL-LOAD DELIV. WITH
Opening pressure bar : 130 Tolerance bar : 3	Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes :
Test lines : 1 680 750 073	Shutoff solenoid Volt :
Outside diameter : 6.00	Check tolerance cm3/1000s. :
x inside diameter : 2.00 x length mm : 450	HOUSING-FIXED IDLE S
REMARKS	RESIDUAL QUANTITY SET  Rated speed rpm :  Del. quantity  cm3/1000 strokes :
INJECTION PUMP SETTING VALUES	Tolerance cm3/1000 strokes : Shutoff solenoid
TIMING DEVICE TRAVEL	+ Volt :

Aneroid pressure hPa	: 1000	
Setting mm Tolerance mm Shutoff solenoid	: 4.1 : 0.2	
Volt	: 12	
SUPPLY PUMP PRESS	TURE	
Rated speed rpm Aneroid pressure	: 1500	
hPa	: 1000	
Setting hPa Tolerance hPa Shutoff solenoid	: 5.7 : 0.3	
Volt	: 12	
FULL-LOAD DELIVER	Y WITH BOOST PRESSURE	
Rated speed rpm Aneroid pressure	: 1250	
hPa	: 1000	
Del. quantity cm3/1000 strokes Tolerance	: 54.5	
cm3/1000 strokes Spread	: 0.5	
cm3/1000 strokes Check tolerance	: 2.0	
cm3/1000s. Shutoff solenoid	: 3.0	
Volt	: 12	
FULL-LOAD DELIV.	WITHOUT BOOST PRESSURE	
Rated speed rpm Del. quantity	: 500	
cm3/1000 strokes Tolerance	: 37.0	
cm3/1000 strokes Shutoff solenoid	: 0.5	
Volt Check tolerance	: 12	
cm3/1000s.	: 3.0	
HOUSING-FIXED IDLE RESIDUAL QUANTITY		
Rated speed rpm Del. quantity	: 490	
cm3/1000 strokes Tolerance	: 8.5	
cm3/1000 strokes Shutoff solenoid	: 0.5	
Volt	: 12	

1500

			Shutoff solenoid	
FULL-LOAD SPEED F	REGULATION	‡ '	Volt	: 12
Rated speed rpm Pressure hPa	: 2575 : 1000	1 :	SUPPLY PUMP PRESSI	JRE CHARACTERISTIC
Del. quantity cm3/1000 strokes			Rated speed rpm Aneroid pressure	: 2000
Tolerance cm3/1000 strokes		+ 1	hPa	: 1000
Shutoff solenoid		+ 1	Supply pomp pressure bar	: 6.8
Volt	: 12	+ :	Tolerance hPa Shutoff solenoid	: 0.3
STARTING FUEL DEL	LIVERY	‡ '	Volt	: 12
Rated speed rpm Del. quantity	: 150		Rated speed rpm Aneroid pressure	: 900
cm3/1000 strokes Tolerance	: 52.0	+ 1	hPa Supply pomp	: 1000
cm3/1000 strokes	: 15.0	+ ,	pressure bar	: 4.2
Shutoff solenoid Volt	: 12	+ :	Tolerance hPa Shutoff solenoid	: 0.3
SET GRADUATED STA	ARTING DELIVERY	‡ '	Volt	: 12
CONTROL LEVER, ID		1 (	OVERFLOW QUANTITY	
Rated speed rpm Del. quantity	: 200		Rated speed rpm Aneroid pressure	: 2150
cm3/1000 strokes Tolerance	: 53.0	+ +	hPa Overflow quantity	: 1000
cm3/1000 strokes	: 3.0	+ (	ccm/10s	: 97.2
Shutoff solenoid Volt	: 12		Tolerance ccm/10s	: 41.6
			Check tolerance	
		•	ccm/10s Shutoff solenoid	: 41.6
INJECTION-PUMP TE	ST SPECIFICATIONS		Volt	: 12
TIMING DEVICE CHA	RACTERISTIC		Rated speed rpm Aneroid pressure	: 500
Rated speed rpm Aneroid pressure	: 2000	+ +	hPa Overflow quantity	: 1000
hPa	: 1000	+ 0	ccm/10s	: 62.5
SV travel mm	: 6.5		Folerance ccm/10s	: 20.8
Tolerance mm Check	: 0.4		Check tolerance	
tolerance mm Shutoff solenoid	: 0.7		ccm/10s Shutoff solenoid	: 20.8
Volt	: 12	<u> </u>	/olt	: 12
Rated speed rpm Aneroid pressure	: 900	+ 0	DELIVERY AND BREAK	AWAY CHARACTERISTIC
hPa	: 1000		Rated speed rpm Aneroid pressure	: 2575
SV travel mm	: 1.2	<u> </u>	nPa .	: 1000
Tolerance mm Check	: 0.4	+ c	Del. quantity cm3/1000 strokes	: 14.0
tolerance mm	: 0.7		Tolerance cm3/1000 strokes	: 2.0

Atan talla			1 6.1				
Check tolerance		, 0	+ Del. quantit			<b>50.0</b>	
cm3/1000s.	:	4.0	+ cm3/1000 str	rokes	:	52.0	
Shutoff solenoid			+ Tolerance				
Volt	:	12	+ cm3/1000 str		:	1.0	
			🗼 🗎 Check tolera	ance			
Rated speed rpm	:	2375	+ cm3/1000s.		:	2.2	
Aneroid pressure	•		+ Shutoff sole	enoid			
hPa	•	1000	+ Volt			12	
	•	1000	T		•	12	
Del. quantity		70.0	Ť ,			500	
cm3/1000 strokes	:	39.0	+ Rated speed		:	500	
Tolerance			+ Aneroid pres	ssure			
cm3/1000 strokes	:	5.0	+ hPa		:	1000	
Check tolerance			∔ Del. quantit	ty .			
cm3/1000s.	:	6.0	+ cm3/1000 str		:	48.3	
Shutoff solenoid	•		Tolerance			, , , ,	
Volt		12	- cm3/1000 str	rokes		1.5	
VOCE	•	12			•	1.5	
		0750	+ Check tolera	ince			
Rated speed rpm	:	2750	+ cm3/1000s.		:	3.0	
Aneroid pressure			+ Shutoff sole	enoid			
hPa	:	1000	+ Volt		:	12	
Del. quantity			1				
cm3/1000 strokes	:	3.0	+ Rated speed	rom	:	1250	
Tolerance	•	0.0	+ Aneroid pres		•	, 200	
	_	3.0	hPa	301 C		1000	
cm3/1000 strokes	:	3.0			•	1000	
Check tolerance			+ Del. quantit			<b></b>	
cm3/1000s.	:	3.0	+ cm3/1000 str	`okes	:	54.5	
Shutoff solenoid			+ Tolerance				
Volt	:	12	→ cm3/1000 str	okes	:	0.5	
	-		- Check tolera				
Rated speed rpm	:	750	+ cm3/1000s.		•	2.2	
	•	7 50	Shutoff sole		•	۲.۲	
			+ 3000011 5000				
Aneroid pressure		700	• • • • • • • • • • • • • • • • • • •	nota	_	40	
hPa	:	350	Volt	enota	:	12	
hPa	:	350	• • • • • • • • • • • • • • • • • • •	enota	:	12	
	:		• • • • • • • • • • • • • • • • • • •		•	12	
hPa LDA/	:		• • • • • • • • • • • • • • • • • • •	···	•	12	
hPa LDA/ HBA stroke mm	:	350 5,9	+ Volt	···	:	12	
hPa LDA/ HBA stroke mm Del. quantity		5,9	Volt	SHUTOFF	•		
hPa LDA/ HBA stroke mm Del. quantity cm3/1000 strokes			Volt	HUTOFF	•	2000	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance	:	5,9 46.0	Volt	HUTOFF	•	2000	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	5,9	Volt	HUTOFF rpm sure	•		
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	5,9 46.0 0.5	Volt	HUTOFF rpm ssure	:	2000 1000	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	5,9 46.0	Volt	HUTOFF rpm ssure	:	2000	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	5,9 46.0 0.5 3.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance	HUTOFF rpm sure	•	2000 1000 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	5,9 46.0 0.5	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str	HUTOFF rpm sure	•	2000 1000 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	:	5,9 46.0 0.5 3.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str	HUTOFF rpm sure y okes	•	2000 1000 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt	:	5,9 46.0 0.5 3.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera	HUTOFF  rpm sure  y okes okes nce		2000 1000 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm	:	5,9 46.0 0.5 3.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s.	HUTOFF rpm sure y okes okes nce		2000 1000 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure	:	5,9 46.0 0.5 3.0 12 2150	Volt	HUTOFF rpm sure y okes okes nce		2000 1000 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa	:	5,9 46.0 0.5 3.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s.	HUTOFF rpm sure y okes okes nce		2000 1000 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity	:	5,9 46.0 0.5 3.0 12 2150 1000	Volt	HUTOFF rpm sure y okes okes nce		2000 1000 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	:	5,9 46.0 0.5 3.0 12 2150	Wechanical s  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt	rpm sure y okes okes nce		2000 1000 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity	:	5,9 46.0 0.5 3.0 12 2150 1000 51.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT	HUTOFF rpm sure y okes okes nce noid		2000 1000 1.5 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000	Wechanical s  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt	HUTOFF rpm sure y okes okes nce noid		2000 1000 1.5 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000 51.0	Volt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT	HUTOFF rpm sure y okes okes nce noid		2000 1000 1.5 1.5 1.5	
LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0	Wechanical S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE	HUTOFF rpm sure cokes cokes nce noid OFF R, IDLE	: :	2000 1000 1.5 1.5 1.5 12	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000 51.0	Wolt  MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE	HUTOFF rpm sure okes okes nce noid OFF R, IDLE	: :	2000 1000 1.5 1.5 1.5 12	
LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	Wechanical S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit	HUTOFF  rpm sure  y okes okes nce noid  OFF R, IDLE	: : :	2000 1000 1.5 1.5 1.5 12	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : : : : : : : : : : : : : : : : : :	5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0	Wechanical s  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str	HUTOFF  rpm sure  y okes okes nce noid  OFF R, IDLE	: : :	2000 1000 1.5 1.5 1.5 12	
LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	Wechanical s  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000 str Check tolera cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str Tolerance	HUTOFF  rpm sure  y okes okes noid  OFF R, IDLE rpm y okes	: : : : :	2000 1000 1.5 1.5 1.5 12 FOP 400 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm		5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str Tolerance cm3/1000 str	HUTOFF  rpm sure  y okes okes noid  OFF R, IDLE rpm y okes okes	: : : : :	2000 1000 1.5 1.5 1.5 12 FOP 400 1.5	
LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt		5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12 2000	MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str	HUTOFF  rpm sure  y okes okes noid  OFF R, IDLE rpm y okes okes	: : : : :	2000 1000 1.5 1.5 1.5 12 FOP 400 1.5 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm		5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2	MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str Tolerance cm3/1000 str	HUTOFF  rpm sure  y okes okes noid  OFF R, IDLE rpm y okes okes	: : : : :	2000 1000 1.5 1.5 1.5 12 FOP 400 1.5	
hPa  LDA/ HBA stroke mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt  Rated speed rpm Aneroid pressure		5,9 46.0 0.5 3.0 12 2150 1000 51.0 1.0 2.2 12 2000	MECHANICAL S  Rated speed Aneroid pres hPa Del. quantit cm3/1000 str Tolerance cm3/1000s. Shutoff sole Volt  ELECTR. SHUT CONTROL LEVE  Rated speed Del. quantit cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str Tolerance cm3/1000 str	HUTOFF  rpm sure  y okes okes noid  OFF R, IDLE rpm y okes okes	: : : : :	2000 1000 1.5 1.5 1.5 12 FOP 400 1.5 1.5	

#### FULL-LOAD STOP CONTROL LEVER

400 Rated speed rpm

Del. quantity

cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. 1.5

#### START TRANSITION

380 Rated speed rpm :

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

12 Volt

## ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

5,9 HBA stroke mm

: 3,3 Dimension K mm

Tolerance mm : +0,1 : 6,0 Dimension KF mm

Tolerance mm : +-0,2

Dimension MS mm : 1,3

: +-0,2 Tolerance mm

#### CONTROL LEVER POSITION SET

Control lever

: 28,8..32,8 position YA mm

Control lever

position YB mm : 68,0..82,0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 10.09.92 Test oil : ISO 4113 : 0 460 494 310 Part no. Pump designation: VE4/9F2150R474 Customer-spec. information : PSA Customer : XUD11ATE-L BVM Motor TEST BENCH REQUIREMENTS Inlet press. bar : 0.35 0.05 Tolerance bar Test nozzle holde : 1 688 901 022 assembly Opening pressure 130 Tolerance bar 3 : 1 680 750 073 Test lines Outside diameter : 6.00 2.00 x inside diameter : x length mm 450 REMARKS BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02 Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Aneroid pressure

1000 hPa

Setting mm 2.5 Tolerance mm 0.2

Shutoff solenoid Volt

SUPPLY PUMP PRESSURE

1250 Rated speed rpm

Aneroid pressure

1000 hPa

5.3 Setting hPa Tolerance hPa 0.3

Shutoff solenoid Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

12

Rated speed rpm 1250

Aneroid pressure

1000 hPa :

Del. quantity

cm3/1000 strokes : 61.5

Tolerance

0.5 cm3/1000 strokes :

Spread

2.5 cm3/1000 strokes :

Check tolerance

cm3/1000s.2.5

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

12 Volt

Check tolerance cm3/1000s. 2.5

Check tolerance

2.5 cm3/1000s.

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550

Del. quantity

cm3/1000 strokes : 3.0

N20

Tolerance			+	Tolerance mm	:	0.4
cm3/1000 strokes	:	0.5	+	Check		
Shutoff solenoid			+	tolerance mm	:	0.7
Volt	:	12	+	Shutoff solenoid		
			+	Volt	:	12
FULL-LOAD SPEED R	REGULAT	ION	+			
	_		+	SUPPLY PUMP PRESS	URE	CHARACTERISTIC
Rated speed rpm	: 2	250	+			
Pressure hPa	:	1000	+	Rated speed rpm	:	2000
Del. quantity		== =	t	Aneroid pressure		
cm3/1000 strokes	:	52.0	†	hPa	:	1000
Tolerance		7.0	†	Supply pomp		<b>.</b>
cm3/1000 strokes	:	3.0	†	pressure bar	:	7.4
Shutoff solenoid		40	†	Tolerance hPa	:	0.3
Volt	:	12	†	Shutoff solenoid		12
STARTING FUEL DEL	TUEDY		†	Volt	÷	12
STARTING FUEL DEL	TAFKI		Ť	Dotted aread man		1000
Rated speed rpm	•	100	Ι	Rated speed rpm Aneroid pressure	•	1000
Del. quantity	•	100	I	hPa		1000
cm3/1000 strokes	•	75.0	I	Supply pomp	•	1000
Tolerance	•	75.0	$\mathbf{I}$	pressure bar	•	4.6
cm3/1000 strokes	•	5.0	1	Tolerance hPa	:	0.3
Shutoff solenoid	•	3.0	1	Shutoff solenoid	•	0.5
Volt	•	12	1	Volt	•	12
	•		1	, , , ,	•	· <b>-</b>
SET GRADUATED STA	RTING	DELIVERY	1	OVERFLOW QUANTITY		
CONTROL LEVER, ID			1			
,			+	Rated speed rpm	:	2000
Rated speed rpm	: 3	200	+	Overflow quantity		
Del. quantity			+	ccm/10s	:	97.2
cm3/1000 strokes	:	77.0	+	Tolerance		
Tolerance			+	ccm/10s	:	41.6
cm3/1000 strokes	:	1.0	+			
Shutoff solenoid			+	Check tolerance		
Volt	:	12	†	ccm/10s	:	41.6
			+	Shutoff solenoid		40
			†	Volt	:	12
			†	Dakad amaad aus	_	500
TALLECTY ONLY DUMP. TE	ST CDE	TETCATIONS	<b>-</b> †	Rated speed rpm		500
INJECTION-PUMP TE	31 SPE	TETCATIONS	Ī	Overflow quantity ccm/10s		62.5
TIMING DEVICE CHA	DACTEDI	CTIC	Ι	Tolerance	•	02.5
TIMING DEVICE CHA	MUTERI	13110	I	ccm/10s	:	20.8
Rated speed rpm	. 20	300	1	COMP (OS	•	20.0
Aneroid pressure	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	Check tolerance		
hPa	•	1000	1	ccm/10s	:	20.8
· =	•		ļ	Shutoff solenoid	-	
SV travel mm	:	5.9	1	Volt	:	12
Tolerance mm	:	0.4	+			
Check			+	DELIVERY AND BREAK	KAWA	Y CHARACTERISTIC
tolerance mm	:	0.7	+			
Shutoff solenoid			+	Rated speed rpm	:	2250
Volt	:	12	+	Aneroid pressure		
			+	hFa	:	1000
Rated speed rpm	: 10	100	+	Del. quantity		
Aneroid pressure		4000	+	cm3/1000 strokes	:	52.0
hPa	:	1000	+	Tolerance		7.0
		4 7	+	cm3/1000 strokes	:	3.0
SV travel mm	:	1.3	+			

Check tolerance cm3/1000s.	:	4.0	‡	Shutoff solenoid Volt	:	12	
Shutoff solenoid Volt	:	12	<b>†</b>	Rated speed rpm Aneroid pressure	:	500	
Rated speed rpm Aneroid pressure	:	2400	Ŧ	hPa Del. quantity	:	1000	
hPa Del. quantity	:	1000	<u> </u>	cm3/1000 strokes Tolerance	:	61.5	
cm3/1000 strokes Check tolerance	:	37.0	1	cm3/1000 strokes Check tolerance	:	1.5	
cm3/1000s. Shutoff solenoid	:	4.0	‡	cm3/1000S. Shutoff solenoid	:	2.5	
Volt	:	12	+	Volt	:	12	
Rated speed rpm Aneroid pressure	:		+	Rated speed rpm Aneroid pressure	:	1250	
hPa Del. quantity	:	1000	‡	hPa Del. quantity	:	1000	
cm3/1000 strokes Tolerance		8.0	‡	cm3/1000 strokes Tolerance		61.5	
cm3/1000 strokes Check tolerance	:	3.0	‡	cm3/1000 strokes Check tolerance	:	0.5	
cm3/1000s. Shutoff solenoid Volt	:	4.0 12	‡	cm3/1000S. Shutoff solenoid Volt	:	2.3	
Rated speed rpm	:	750	Ī		•	۱۲	
Aneroid pressure	:	400	<u></u>	MECHANICAL SHUTOF	F		
Del. quantity cm3/1000 strokes	:	56.5	<u> </u>	Rated speed rpm Aneroid pressure	:	2000	
Tolerance cm3/1000 strokes	:	0.5	+	hPa Del. quantity	:	1000	
Check tolerance cm3/1000s.	:	3.0	+	cm3/1000 strokes Tolerance		1.5	
Shutoff solenoid Volt	:	12	+	cm3/1000 strokes Check tolerance	:	1.5	
Rated speed rpm Aneroid pressure	:	2000	<b>†</b>	cm3/1000S. Shutoff solenoid Volt	:	1.5 12	
hPa Del. quantity	:	1000	Ī		•		
cm3/1000 strokes Tolerance	:	56.5	‡	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	TOP	
cm3/1000 strokes Check tolerance	:	1.5	‡	Rated speed rpm		325	
cm3/1000s. Shutoff solenoid	:	2.3	‡	Del. quantity cm3/1000 strokes	:	1.5	
Volt	:	12	‡	Tolerance cm3/1000 strokes	:	1.5	
Rated speed rpm Aneroid pressure	:		‡	Check tolerance cm3/1000s.	:	1.5	
hPa Del. quantity cm3/1000 strokes	•	1000 62.0	<u> </u>	FULL-LOAD STOP CO	NTRO	L LEVER	
Tolerance cm3/1000 strokes		1.5	Ī	Rated speed rpm Del. quantity	:	325	
Check tolerance cm3/1000s.	:	2.5	‡	cm3/1000 strokes	:	1.5	
			•				

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

IDLE DELIVERY

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Volt : 12

EXHAUST-GAS RECIRCULATION

Rated speed rpm : 1000

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : 0.5

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 325

Del. quantity

cm3/1000 strokes : 40.5

Tolerance

cm3/1000 strokes : 3.5

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 Tolerance mm : +-0,1

Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,1

Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8..3,0

: ARF 12,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.09.92 Test oil : ISO 4113

: 0 460 494 313 Part no. Pump designation: VE4/9F2150R474-1

Customer-spec. information Customer : PSA

: XUD11ATE-L/BVA Motor

TEST BENCH REQUIREMENTS

0.35 Inlet press. bar : Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +0.02Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa 1000 :

Setting mm 2.5 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

hPa 1000

5.3 Setting hPa Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1250

Aneroid pressure

1000 : Del. quantity

cm3/1000 strokes : 61.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5 Check tolerance

cm3/1000s.Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 43.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 2.5

Check tolerance cm3/1000s.

2.5

2.5

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 3.0

N24

Tolerance			+	Tolerance mm	:	0.4	
cm3/1000 strokes	:	0.5	+	Check			
Shutoff solenoid			+	tolerance mm	:	0.7	
Volt	:	12	+	Shutoff solenoid			
			+	Volt	:	12	
FULL-LOAD SPEED F	REGUI	LATION	+				
			+	SUPPLY PUMP PRESS	URE	CHARACTER	ISTIC
Rated speed rpm	:	2250	+				
Pressure hPa	:	1000	+	Rated speed rpm	:	2000	
Del. quantity			+	Aneroid pressure			
cm3/1000 strokes	:	52.0	+	hPa	:	1000	
Tolerance			+	Supply pomp			
cm3/1000 strokes	:	3₀9	+	pressure bar	:	7.4	
Shutoff solenoid			+	Tolerance hPa	:	0.3	
Volt	:	12	+	Shutoff solenoid			
			+	Volt	:	12	
STARTING FUEL DEL	IVE	₹Y	†				
		400	†	Rated speed rpm	:	1000	
Rated speed rpm	:	100	+	Aneroid pressure		4055	
Del. quantity		75.0	†	hPa	:	1000	
cm3/1000 strokes	:	75.0	†	Supply pomp		, ,	
Tolerance		F 0	†	pressure bar	:	4.6	
cm3/1000 strokes	:	5.0	†	Tolerance hPa	:	0.3	
Shutoff solenoid		12	†	shutoff solenoid		10	
Volt	:	12	†	Volt	:	12	
SET GRADUATED STA	OTT	S DELTIVEDY	Ī	OVERFLOW QUANTITY			
CONTROL LEVER, II			I	OVERTEON GOARTITT			
CONTINUE CEVERY IS	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7101	1	Rated speed rpm	:	2000	
Rated speed rpm	:	200	1	Overflow quantity	-	2000	
Del. quantity	•		1	ccm/10s	:	97.2	
cm3/1000 strokes	:	77.0	1	Tolerance	•		
Tolerance			1	ccm/10s	:	41.6	
cm3/1000 strokes	:	1.0	+				
Shutoff solenoid			+	Check tolerance			
Volt	:	12	+	ccm/10s	:	41.6	
			+	Shutoff solenoid			
			+	Volt	:	12	
			†				
			<del> †</del>	Rated speed rpm		50 <b>C</b>	
INJECTION-PUMP TE	STS	SPECIFICATIONS	†	Overflow quantity		<b>(2) F</b>	
T-11-10	~ 4 ~ 7		†	ccm/10s	:	62.5	
TIMING DEVICE CHA	KAU	FKT211C	†	Tolerance ccm/10s		20.8	
Data danced man	_	2000	T	CCM7 TUS	•	20.0	
Rated speed rpm Angroid pressure	•	2000	I	Check tolerance			
hPa		1000	Ι	ccm/10s	•	20.8	
ira	•	1000	I	Shutoff solenoid	•	20.0	
SV travel mm		5,9	1	Volt	•	12	
Tolerance mm	•	0.4	1	7000	•		
Check	•	<b>0.</b> (	1	DELIVERY AND BREAK	<awa< td=""><td>AY CHARACT</td><td>ERISTIC</td></awa<>	AY CHARACT	ERISTIC
tolerance mm	:	0.7	<u> </u>				
Shutoff solenoid	•		1	Rated speed rpm	:	2250	
Volt	:	12	+	Aneroid pressure			
			+	hPa	:	1000	
Rated speed rpm	:	1000	+	Del. quantity			
Aneroid pressure			+	cm3/1000 strokes	:	52.0	
hPa	:	1000	+	Tolerance			
		4 -	+	cm3/1000 strokes	:	3.0	
SV travel mm	:	1.3	+				

N25

Check tolerance cm3/1000S. Shutoff solenoid	:	4.0	†	Shutoff solenoid Volt	:	12	
Volt	:	12	Ī	Rated speed rpm Aneroid pressure		500	
Rated speed rpm Aneroid pressure	:	2400	1	hPa Del. quantity	:	1000	
hPa Del. quantity	:	1000	+	cm3/1000 strokes Tolerance	:	61.5	
cm3/1000 strokes Check tolerance	:	37.0	+	cm3/1000 strokes Check tolerance	:	1.5	
cm3/1000S. Shutoff solenoid	:	4.0	‡	cm3/1000s. Shutoff solenoid	:	2.5	
Volt	:	12	‡	Volt	:	12	
Rated speed rpm Aneroid pressure	:		‡	Rated speed rpm Aneroid pressure	:	1250	
hPa Del. quantity	:	1000	‡	hPa Del. quantity	:	1000	
cm3/1000 strokes Tolerance		8.0 3.0	‡	cm3/1000 strokes Tolerance		61.5	
cm3/1000 strokes Check tolerance cm3/1000s.	•	4.0	1	cm3/1000 strokes Check tolerance cm3/1000s.	:	2.3	
Shutoff solenoid Volt	•	12	Ī	Shutoff solenoid Volt	•	12	
Rated speed rpm	:	750	+		· 		
Aneroid pressure hPa	:	400	ţ	MECHANICAL SHUTO	F		
Del. quantity cm3/1000 strokes	:	56.5	‡	Rated speed rpm Aneroid pressure	:	2000	
Tolerance cm3/1000 strokes	:	0.5	‡	hPa Del. quantity	:	1000	
Check tolerance cm3/1000S.	:	3.0	‡	cm3/1000 strokes Tolerance		1.5	
Shutoff solenoid Volt	:	12	‡	cm3/1000 strokes Check tolerance cm3/1000s.	:	1.5	
Rated speed rpm Aneroid pressure	:	2000	1	Shutoff solenoid Volt	:	1.5	
hPa Del. quantity	:	1000	1		•		<del></del>
cm3/1000 strokes Tolerance	:	56.5	+	ELECTR. SHUTOFF CONTROL LEVER, ID	LE S	STOP	
cm3/1000 strokes Check tolerance	:	1.5	1	Rated speed rpm	:	325	
cm3/1000S. Shutoff solenoid	:	2.3	+	Del. quantity cm3/1000 strokes	:	1.5	
Volt	:	12	‡	Tolerance cm3/1000 strokes	:	1.5	
Rated speed rpm Aneroid pressure	:	1300 1000	‡	Check tolerance cm3/1000s.	:	1.5	
hPa Del. quantity cm3/1000 strokes	•	62.0	<u> </u>	FULL-LOAD STOP CO	NTRO	DL LEVER	
Tolerance cm3/1000 strokes		1.5	Ī	Rated speed rpm Del. quantity	:	325	
Check tolerance cm3/1000s.	:	2.5	‡	cm3/1000 strokes	:	1.5	
			•				

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s.1.5

IDLE DELIVERY

Rated speed rpm : 375

Del. quantity

cm3/1000 strokes : 8.0

Tolerance

cm3/1900 strokes : 3.0

Check tolerance

cm3/1000s.3.0

Shutoff solenoid

12 Volt

EXHAUST-GAS RECIRCULATION

1000 Rated speed rpm

Aneroid pressure

1000 hPa

Del. quantity

cm3/1000 strokes : 25.5

Tolerance

cm3/1000 strokes :

Check tolerance

0.5

3.0

cm3/1000s.

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm 325

Del. quantity

40.5 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 3.5

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 Tolerance mm : +-0.1: 5,4 Dimension KF mm

: +-0,2 Tolerance mm

Dimension MS mm : 1,1

Tolerance mm : +-0,2 MICROSWITCH

SET

: 0,8...3,0  $\mathbf{m}\mathbf{m}$ 

: ARF 12,0

CONTROL LEVER POSITION

Control lever

position YA mm : 34,3..38,3

Control lever

position YB mm : 73,7..88,3